MIDWEST MARKETING ISSUE
Pages 9-16

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Northeast Drouth Grows Worse Again After Light Rain

Dry Weather Takes Toll of Pastures, Field Crops, Fruit

BOSTON—The drouth in southern New England, now in its fourth month and showing signs of worsening again after slight rains, was termed an "insidious thing" by Walter E. Piper, chief marketing investigator of the Massachusetts Department of Agriculture.

"It's a deep-seated drouth and we're slipping right back into it," he said. "The state has become so dry, it's going to take an awful lot of water to bring it back."

Rain making machines are still spotted around the state, but atmospheric conditions have not been favorable for cloud seeding.

In Connecticut, Republican legislators called on Democratic Gov. Abraham A. Ribicoff to call a special session of the legislature to provide state aid for drouth-hit farmers. If the governor refused, they threatened to force such a special session. The legislature is under top-heavy Republican control.

"Connecticut farmers don't want

(Continued on page 17)

Delaware Fertilizer Plant Destroyed in Fire

GEORGETOWN, DEL.—A fire loss of some $300,000 was suffered by the Melson Fertilizer Co. near here recently, when the firm's main structure, 150 x 300 ft., was destroyed.

The leaping flames for a time threatened to ignite a 100-acre stand of valuable hardwood forest, but firemen were able to prevent the blaze from spreading. In addition to the main building of the plant, three railroad cars on a siding were destroyed.

The company is owned by Harvey E. Melson and had been operating from the present plant since 1952.

Potash Deliveries Show Increase in First Half of 1957

— See Table on Page 21 —

WASHINGTON—Deliveries of potash for agricultural purposes in the U.S., Canada, Cuba, Puerto Rico and Hawaii totaled 2,016,465 tons of salts containing an equivalent of 1,187,113 tons K_2O during the first six months of 1957, according to the American Potash Institute.

This was an increase of nearly 7% in salts and K_2O over the same period in 1956. Continental U.S. took 1,111,234 tons K_2O, Canada, 40,288 tons, Cuba, 8,855 tons, Puerto Rico, 14,296 tons and Hawaii, 12,400 tons K_2O.

These figures include imports of 79,971 tons K_2O for the first five months of the year, a decrease of about 3% under last year. Exports to other countries were 133,454 tons K_2O, an increase of 132%. Deliveries of potash for non-agricultural purposes amounted to 61,098 tons K_2O, a decrease of 10% under last year. Total deliveries for all purposes were 2,337,367 tons of salts containing an equivalent of 1,381,665 tons K_2O, an increase of nearly 12% in salts and K_2O.

During the second quarter of 1957, deliveries for agricultural purposes were 559,297 tons K_2O in Continental U.S., 25,804 tons in Canada, 5,217 tons in Cuba, 10,665 tons in Puerto Rico and 4,441 tons in Hawaii, making a total of 605,424 tons K_2O, an increase of 18% over last year. Included in these figures are imports of 79,971 tons K_2O for the first five months of the year. Exports of potash to other countries during the second quarter were 59,679 tons K_2O, an increase of 71% over last year.

Deliveries of potash for non-agricultural purposes were 30,645 tons K_2O, a decrease of nearly 9% under last year. Total deliveries for the quarter including imports for the first five months, were 1,175,225 tons of salts containing an equivalent of 695,748 tons K_2O, an increase of 20% over last year.

Congressional Group Hears Testimony on TVA Price Policies

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON—Publication of testimony given at the recent hearings on the Tennessee Valley Authority appropriations bill was released in a government publication last week. It covered statements made by fertilizer industry leaders as well as those by representatives of TVA, and revealed broad differences of opinion as to the proper place of the government agency in competition with private industry.

Among the industry witnesses were Joseph E. Culpepper, vice president of Spencer Chemical Co., Kansas City, Mo. and Hugo Riemer, president of the Nitrogen Division, Allied Chemical & Dye Corp., New York.

Mr. Culpepper, appearing in person before the House Sub-Committee on Appropriations for TVA, said that TVA's contribution to broad use of ammonium nitrate is well recognized, but added that since this basic promotional problem had been solved, it should be time for TVA to cut back or to withdraw its continued distribution of this product.

A TVA witness earlier had told the committee that TVA was cutting back somewhat on ammonium nitrate production, but a continuing need existed for research, educational and farm plot demonstration programs in connection with educating farmers for further use of such materials.

Testimony on the subject of prices disclosed that TVA had reduced the price of its ammonium nitrate by $6 a ton, despite the fact that the manufacturing cost had risen by the same amount. A. J. Wagner, TVA general manager, in replying to a question put to him as to why the price of TVA fertilizer was cut by about 10% under the price of the same product manufactured by private industry, said that TVA tries to set its prices "as close to the commercial price as we can."

It was developed in later testimony that the TVA price incentive was $6 a ton under the going prices quoted by its commercial competitors. TVA pointed out subsequently that it has no way of policing sales of its fertilizer materials when sold through its distributor system to assure that the products were actually being used in "educational programs."

The TVA witness explained to committee members that "The price of fertilizers . . . is set in relation to the price of commercially-produced products. We set the price at about $6 a ton lower to provide the incentive that is necessary to get the materials used in the educational program. That consideration controls the price of all our fertilizer. We do not propose to conduct a commercial operation."

It was previously established in the hearings that only about 3% of TVA's

(Continued on page 17)

Victor Acquires Phosphate Plant, Lands From Federal

CHICAGO—Victor Chemical Works, producer of elemental phosphorus, phosphates and other industrial chemicals, Aug. 14 announced the acquisition of the phosphate ore washing plant and plant site, and 2,700 acres of phosphate lands owned by Fedaral Chemical Co., near Mount Pleasant, Tenn. Financial details of the transaction were not disclosed.

In announcing the acquisition, Rothe Weigel, Victor president said:

"The land acquired from Federal contains large reserves of phosphate rock, and with the reserves the company already owns, we are assured of a supply of raw material for our Mount Pleasant electric furnace phosphorus plant for many years.

"Included in the purchase is the phosphate rock washing plant of the Federal company adjoining Victor's present Globe phosphate washing plant. The locations of these plants, so close together, will make possible the integration of some of the Federal facilities with the Globe installation."

This is the second major development of this year of Victor's Middle Tennessee operations. As announced in June, an organic phosphorus manufacturing plant is now under construction at Mount Pleasant. Victor's operations at Mount Pleasant began with the construction of one electric furnace in 1937. Additional furnaces have been added until now there are four in operation at this plant. The company also has elemental phosphorus furnaces in operation at Victor, Fla., and Silver Bow, Mont.

ACP Offers Opportunity for Additional Pesticide Sales

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON, D.C.—For this fiscal year there will be available for conservation practices on farm land a total sum of nearly $575 million. This consists of the regular annual authorization and appropriation of $250 million for the Agricultural Conservation Program plus an additional $325 million authorization for the USDA soil bank in its conservation reserve program.

These two programs are not overlapping although it is possible that in some cases the soil bank crop program may drag away some small land from the regular ACP operation.

The soil bank program is a long term contract operation between USDA and local farmers, running from one to ten years in which the government contract is designed to take land out of production of field crops or row crops. It is designed to build pasture and cover crop land on a long range goal basis. The ACP deal, on the other hand, is more of a year-to-year soil-building program including not only adherence to good land use practices but water reten-

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FOUND IN CAROLINAS

USDA Alerts Farmers to Be On Lookout for Witchweed

WASHINGTON—The U.S. Department of Agriculture has alerted farmers to be on the lookout for witchweed—an unfamiliar pest with bright green, slightly hairy leaves, and bright, generally reddish flowers. This parasitic plant, which attacks corn and some other crops, has been found on about 38,000 acres near the coast in both North Carolina and South Carolina.

First discovered in this country in the fall of 1956, some witchweed plants were found first breaking the ground surface in latter May of this year in the Carolinas. Wilting of volunteer corn plants was evident a few days later. Witchweed roots penetrate roots of host plants, robbing them of food and water. Symptoms of parasitism resemble those produced by acute drouth — stunting, wilting and yellowing. The first witchweed blooms—small and usually brick red or scarlet, sometimes yellowish red, yellowish or almost white —appeared in early June, and will continue until frost. Blooms are numerous.

USDA's Agricultural Research Service and state pest control agencies are surveying intensively in areas adjacent to the area found infested by the weed in 1956. Thus far, it has shown up on 354 farms in eight counties in North Carolina, and on 116 farms in five South Carolina counties.

Surveys have been made also in parts of Alabama, Florida and Georgia, but without turning up any evidence of witchweed in these areas. Farmers themselves, however, should search their lands intensively for their own protection, because destruction of plants now can save crop damage later and prevent spread to new areas, USDA said. Corn failed completely in some infested fields in the Carolinas in 1956 and again this year.

By the end of June this year, damage to corn was severe in all infested areas. Parasitized corn plants wilt and growth ceases at about five feet in some areas in which normal corn plants grow eight to 10 feet tall.

Anyone finding witchweed—or suspecting its presence—is asked to notify his county agent. The agent can arrange for positive identification and can suggest measures for eradication. Witchweed plants or seed should not be moved from the field, since the minute seeds are easily spread.

Corn, sugarcane, sorghum, many grasses, certain sedges and some broadleaved plants are attacked by witchweed. By the time the corn is ready to "put by," crabgrass will be coming along—and witchweed attacks crabgrass. The weed usually does not show up in cotton and tobacco fields early, but may appear there, if present, when crabgrass comes in. Witchweed was observed last year parasitizing crabgrass in fields of tobacco, peanuts, beans, peas and sweetpotatoes.

One witchweed plant can produce up to half a million tiny seeds. Pest control agencies are eager to find every patch of the pest they can this summer, to plan an action program and to prevent further spread.

A federal quarantine to regulate movement of articles that might spread witchweed from infested parts of the Carolinas will probably be imposed by mid-August. North Carolina and South Carolina are expected to impose parallel state quarantines to cover intrastate movement of regulated products.

Ragweed Control Project Started in Oregon

PORTLAND, ORE.—George H. Moose, agronomist recently employed to take charge of ragweed control in Oregon, has announced that work is under way. All western Oregon counties are included in the ragweed control district established by the 1957 legislature.

State funds will be used to control this weed along railroad rights-of-way and on lands of public utilities, including power, water, gas and telephone companies. Public agencies are required to spray ragweed on all lands under their control.

Rear Farm Service, Inc., of Eugene has received the contract to furnish and mount spraying equipment, including boom and nozzles on the ¾ ton truck purchased for the spraying.

PERENNIAL COOL SEASON
GRASS - LEGUME PASTURE
This experiment supported by a research grant from
OLIN MATHIESON CHEMICAL CORPORATION

MATHIESON-BACKED PROJECT—A 40-acre brome, fescue, orchard grass and alfalfa field that has made possible highly productive year around pasture in southeast Oklahoma is inspected by Charles Fricks, field representative for the Olin Mathieson Chemical Corp.; Norman Nossaman, Oklahoma State University graduate student from Driftwood, Okla.; Dr. U. S. Jones, Mathieson; and Charles Coley, formerly field representative with Mathieson. This field is a part of the improved pasture and forage experiments carried out under a research grant from Mathieson in the amount of $2,000 annually for a five-year period. Mr. Nossaman completed a master's degree under the Mathieson graduate fellowship. The work is carried out under the direction of Dr. J. Q. Lynd, Oklahoma associate professor of agronomy.

60 Attend Phillips Anhydrous Ammonia Sales Meeting

EXCELSIOR SPRINGS, MO.—About 60 anhydrous ammonia distributors attended the annual summer sales meeting of the Phillips Petroleum Co. held here Aug. 1-2 at the Elms Hotel. The first day was devoted to a panel discussion of various sales and operating topics for the ammonia distributors, and on the second day there was a presentation of the Phillips 1957-58 ammonia sales program.

One of the panel discussions dealt with equipment and safety and featured Otho Clark, Clark Mfg. Co., Atherton, Mo.; Earl Altman, Dempster Mfg. Co., Beatrice, Neb.; Jerry Blomeyer, John Blue Equipment Co., Huntsville, Ala., and Paul Tucker, engineering department, and Lloyd Piepergerdes, maintenance department, Phillips Petroleum Co. Many problems of equipment and tank maintenance and safety were covered.

An agronomy panel featured Dr. George E. Smith, University of Missouri; Dr. Ray Olson, Kansas State College; John Falloon, extension soils specialist, University of Missouri; Andy Erhart, Garden City, Kansas, experiment station; and K. Akagi, a sugar beet grower from Garden City, Kansas.

Members of agricultural agencies composed the third panel. They were Fowler Young, Clay County Extension Agent; Joseph Schneider, ASC director for St. Joseph, Mo., and Roy Eck, vo-ag instructor from Effingham, Kansas.

A group from commercial affiliated agencies, the fourth panel, included David Heberling, Clay County State Bank, Excelsior Springs; John Killackey, agricultural agent, Frst National Bank, St. Joseph, Mo.; Clyde Duncan, agricultural editor, Missouri Press Assn., Columbia, Mo., and James Leathers, farm news reporter on Radio Station KFRM and KMBC, Kansas City.

Each panelist contributed ideas from his own experience that would be helpful to the ammonia distributor in selling his product to the farmer.

New Mexico Farm Day Scheduled

STATE COLLEGE, N.M.—Results of field tests on alfalfa, grasses, and cotton will be shown to hundreds of visitors expected to attend New Mexico A&M College's annual farm day program Sept. 5. Gordon B. Hoff, state extension agronomist and chairman of the day's program, says the program topics will include:

Carry-over of phosphorus from alfalfa to cotton, effect of height of clipping on yields of Coastal Bermuda grass, rates and methods of planting cotton, fumigation to control Verticillium wilt, and new varieties of tomatoes, alfalfa, and cotton.

Featured speaker during the luncheon hour will be Dr. K. S. Quisenberry, assistant director of crops research, Agricultural Research Service, USDA, Washington, D.C. His topic will be "Plant Breeding." Dallas Rierson, director of the New Mexico State Department of Agriculture, will discuss the functions and services of his department.

The field day program will be held at the College's Agronomy Farm, just west of Mesilla Park. Mr. Hoff says the farm day has been scheduled about a month earlier than usual this year to avoid conflict with the heavy harvesting season.

JOINS MCA STAFF

WASHINGTON—Charles E. Wallace has joined the staff of the Manufacturing Chemists' Assn., Inc., as public relations representative. Previously, he was a member of the Borden Co.'s public relations department, New York City.

R. M. Yoder Heads National Sprayer And Duster Assn.

CHICAGO—R. M. Yoder, vice president, Dobbins division, Chamberlain Corp., Waterloo, Iowa, was elected president of National Sprayer & Duster Assn. at the 13th annual meeting held at Catawba Cliffs Beach Club, Port Clinton, Ohio July 24-25. E. M. Myers, vice president, F. E. Myers & Bro. Co., Ashland, Ohio, was elected vice president, and P. L. Hauser, sales manager, Root-Lowell Manufacturing Co., Chicago, was named as treasurer. These officers with D. P. Lewis, H. D. Hudson Manufacturing Co., Chicago, the retiring president, and W. Floyd Keepers, secretary, make up the executive committee of the association.

Member companies of the association produce a wide range of equipment, from power equipment for field use down to sizes used around the garden and home for insect and weed control.

On July 23 members of National Sprayer & Duster Assn. and the power sprayer and duster department of Farm Equipment Institute held a joint cooperative educational meeting at Catawba Cliffs Beach Club. Featured speakers were Dr. C. J. Willard, Ohio State University authority on weed control problems, and Andrew Meldrum, Cleveland advertising specialist.

Ed Tanquary, International Harvester Co., reported on the recent International Standards Organization meeting in Lisbon, Portugal, which he attended as a representative of the Farm Equipment Institute's advisory engineering committee. E. O. Williams, county agricultural agent in Lucas County, Ohio, led a panel discussion of problems farmers meet in using insecticides and herbicides with spraying and dusting equipment.

USDA Accepts Shell Label for Phosdrin

NEW YORK — The U.S. Department of Agriculture has accepted Shell Chemical Corp. labels for use of Phosdrin insecticide on apples, according to M. M. Lowish, manager of agricultural chemicals for Shell's New York district. He said that Shell now can market this new product for commercial use on apples.

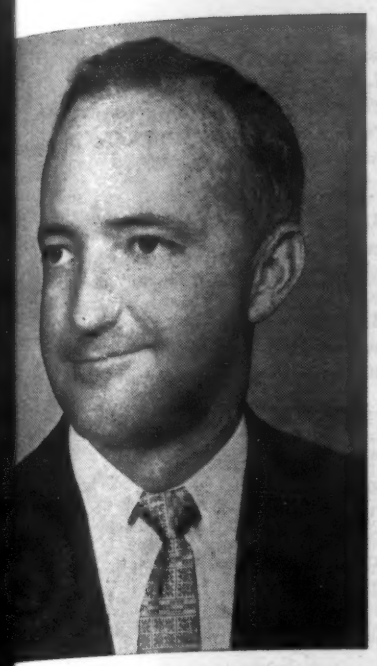
Mr. Lowish said that label acceptance by USDA was based on results of experimental work done at the experiment stations of Cornell and Virginia universities. He said that this experimental work showed that Phosdrin "controls even the hard-to-kill leaf rollers" and that it "kills and disappears quickly without lingering on the fruit." He said growers can apply it up to 14 days before harvest.

The work at Cornell was handled by Dr. P. J. Chapman and Dr. E. H. Glass, both entomologists at the Geneva, N.Y. station, while Dr. C. Hill, an entomologist at the Winchester, Va., station, ran the experiments in that state.

Shell sells the product to formulating companies throughout the country who market it under their brand name. These companies have formulated it in emulsible form and it is now available in apple growing areas in commercial quantities, Mr. Lowish said.

WATER SHORTAGE

SALT LAKE CITY, UTAH—A midsummer water shortage is threatened in Millard County and parts of Washington and Kane counties, the Utah Weather and Crops Report said recently. Third crop alfalfa hay will be the chief crop to suffer when the water runs short, the report notes. Irrigation supplies in the rest of the state are the best in several years and stream flows have been above average.



Ray H. Cooney

NERAL MANAGER — Ray H. oney has been made general man- r of Flag Sulphur & Chemical , Tampa, Fla., the firm has an- nced. He has been with Flag Sul- ur for the past nine years, during ich time he served as a salesman l sales manager before his recent motion. Mr. Cooney is a veteran World War II, having served with 102nd Infantry Division with 17 nths of overseas duty.

rogram Announced r Fertilizer Safety ction Meeting

CHICAGO—The program for the nual meeting of the Fertilizer Sec- n, National Safety Congress, has en announced by J. Lauren Shopen, airman of public relations for the tion. The meeting will be held Oct. 22 at the LaSalle Hotel in Chi- go.

The sessions will get under way e afternoon of Oct. 21 with re- rks by E. O. Burroughs, Jr., Roy- r Guano Co., Norfolk, Va., general airman of the section, and the elec- n of 1957-58 officers. Topics and eakers at this session will include: "Front Office Safety," Frank A. rard, Olin Mathieson Chemical rp., New York; "Safety—A Retreat a Challenge," Dr. John H. Foulger, e Du Pont Co., Wilmington, and low We Can Profit Through Acci- nt Investigation," James E. Kava- ugh, the Travelers Insurance Co., nneapolis.

T. J. Clarke, Cooperative G.L.F. xchange Soil Building Division, will lk on "The Man Who Wasn't There" a noon luncheon Oct. 22. On the ternoon program that day will be: "Visualizing Ammonia Hazards," E. Anderson, Johnson & Higgins, New rk; "Using Acids and Nitrogen lutions Without Hazard—Careless- s Can Be Costly," Elmer Perrine, lied Chemical & Dye Corp., New rk, and "Observations on Latin merican Safety," A. B. Pettit, W. Grace & Co., New York.

A. Ford, St. Regis, Dies

NEW YORK—Burton A. Ford, 63, ho had been associated with St. gis Paper Co. since 1928, died Aug. at his home in Allentown Pa. Mr. rd was a member of the general aff of the multiwall packaging divi- n, and had served in various sales anagement capacities with the com- ny.

Mr. Ford had served as general anager of the National Lime Assn. m 1922-26 and later was made an norary life-time member of the sociation. He served as sales man- er of Bates Valve Bag Corp., which s acquired by St. Regis, and con- ued in sales management posts th the company in the southeastern d mid-Atlantic sales districts of e multiwall packaging division. He s named a member of the division's neral staff in 1953.

Massachusetts Station Observes 43 Years of Progress in Research

WALTHAM, MASS.—Open house at the Waltham Field Station of the University of Massachusetts marked 43 years of progress and research and extension work this year with 1,500 persons visiting the area. The field station serves the commercial growers of Massachusetts through study of plant problems and breeding and culture techniques.

Dr. John R. Havis, director, said the model vegetable gardens maintained at the field station serve not only as a trial ground for chemical insect fighting techniques, but also double as a model for vegetable growers. The vegetable projects include tomatoes, lettuce seed production and breeding work with carrots.

Need for a field station near Boston was first recognized in 1914 at a time when the ravages of insects and diseases in the fields of eastern Massachusetts almost put the vegetable growers out of business. The following year, a bill was filed with the General Court to "establish a market garden field station for practical demonstrations."

In the tomato growing area, long rows of trellis grown tomatoes are cultivated under the most exacting conditions. Records are carefully kept of the types of fertilizer used and the progress of the plants. Each of the rows, making up the 180 plots, is tagged, showing the variety planted, and other essential data as to date of planting, time of maturity, and a record is kept of the harvest from each. As the tomatoes are gathered, they are checked carefully and sorted into four grades and sizes. Records are made by students from the university at Amherst who spend their summers working at the field station.

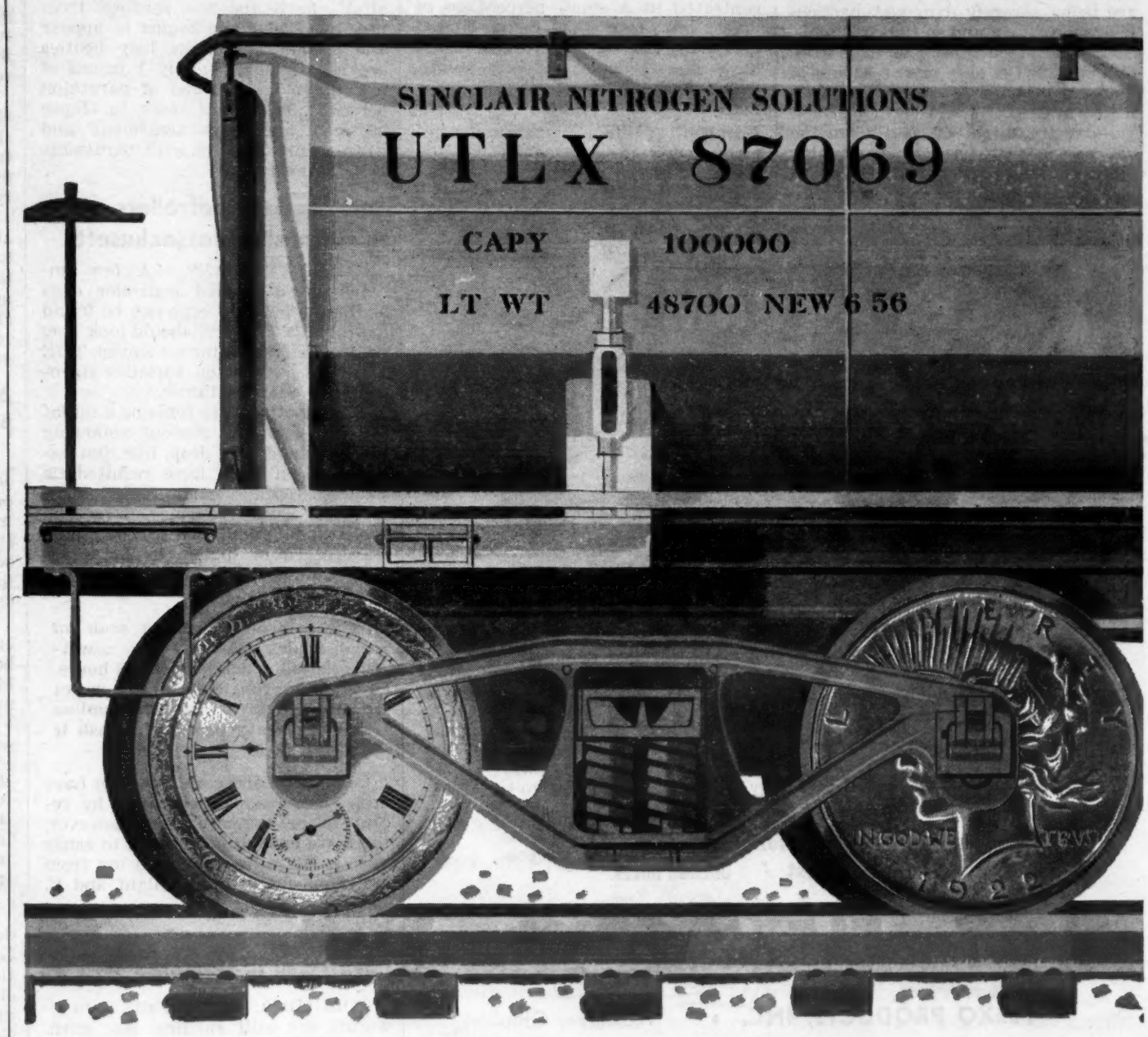
From the records maintained, commercial growers are able to determine which varieties are best. The experimental breeding work is done in an effort to produce better, firmer tomatoes for growing on trellises.

The field station greenhouses are designed also for experimental purposes, and are divided into compartments to permit the growing of different crops under different conditions. Each compartment is equipped with separate automatic temperature controls and automatic regulators on the roof ventilators.

New Handbook Available For Canadian Farmers

"Fertilizing Prairie Soils" is the title of a new handbook on fertilizer problems and methods in Western Canada prepared for farmers by the fertilizer division of Consolidated Mining & Smelting Co. of Canada, Ltd.

The book deals with fertilizer usage on the prairies. Photographs and charts are used to advantage to show the vital role that fertilizer is playing in developing prairie agriculture.



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INSECT, PLANT DISEASE NOTES

Horn Flies Attack Utah Livestock

LOGAN, UTAH—Horn flies are causing Utah's beef and dairy cattle owners substantial losses, according to a report of Utah State University entomologists.

The flies are found on the back, sides and underneath parts of cattle and they stay day and night, the experts report.

Control of these pests with rubbing devices has become popular in a number of Utah localities. These also help to keep cattle lice populations at a low level.

Armyworm Troubles Illinois Growers

URBANA, ILL.—Fall armyworm continues to be a problem on field corn not yet tasselled, and some fields are being severely damaged, particularly in western and southern Illinois. So far, no fall armyworms have been observed in the ears or ear shoots of field corn, but a few have been collected in ears of sweet corn.

Early treatment of corn when the worms are small has been reasonably effective. After the worms are large and deep in the whorl, control is difficult. Twenty pounds of 5% DDT granules, applied by air, has been reported to be effective, but airplane sprays of DDT have been relatively ineffective. Ground sprays of 1½ pounds of either actual DDT or toxaphene have been effective when applied with 20 or more gallons of water per acre.

So far, fall armyworms have not been observed on crops other than corn. However, they will attack alfalfa and grass crops.

Freshly-laid corn borer eggs and small borers are now present in fields in southwestern Illinois. Egg counts, in individual fields, however, have not increased as expected. There are at least two reasons for this: First, there is a large acreage of corn, which is in an attractive stage for egg laying. Thus, egg laying is not being concentrated in a small percentage of fields, but instead, is being diluted over many fields. Secondly, cool nights have slowed down the egg laying, which will now progress somewhat with the warmer nights.

In central Illinois, pupation is complete and emergence nearly so. Egg laying started recently (August 10) and will continue. In northern Illinois emergence is progressing as is egg laying, which will continue for another two weeks or more. In these areas egg laying in general will be light, but occasional fields may receive moderate numbers of eggs.

Corn leaf aphids still seem to be with us. They are decreasing in some fields and increasing in others. Treatment for control is still questionable. If the field is being hurt and wilting is occurring, apply one pound of malathion per acre or ¼ pound of parathion. Phosdrin, applied by commercial operators, may also be used at the rate of 0.3 to 0.5 lb. an acre.

Spotted alfalfa aphid can now be found commonly in alfalfa fields in extreme southern Illinois. Although the situation is not alarming and no damage is apparent, it would be well in this area to keep a close watch on alfalfa fields and new seedings from now on. If damage begins to appear and predators such as lady beetles are not abundant, apply 1 pound of malathion or ¼ pound of parathion per acre. Allow one week to elapse between malathion treatment and harvest and 15 days with parathion. —H. E. Petty.

Red Banded Leafrollers Numerous in Massachusetts

AMHERST, MASS.—A few unhatched red banded leafroller eggs and many hatched eggs can be found in orchards. Growers should look now for leafrollers feeding on leaves. TDE may still be used on varieties ripening later than McIntosh.

The 2-spotted mite remains a threat in many orchards. Serious yellowing of foliage and fruit drop, like that experienced in 1955, have resulted on some susceptible early varieties. In problem blocks worms of second brood codling moth are still hatching. The return of higher temperatures will stimulate more activity for all these pests.

There is no danger of scab on clean apples unless we have a wetting period which lasts 45-48 hours. A summer fungicide in the insect sprays will give protection unless rains are heavy enough to wash it off.

Corn borer and corn earworm have been slowed down somewhat by recent lower temperatures. However, there are enough in the area to cause serious losses in corn maturing from mid-August on.—C. J. Gilgut and E. H. Wheeler.

Fall Armyworms in Late Corn in Missouri

COLUMBIA, MO.—Fall armyworms are still riddling late corn. Many fields are being held back so much by the worms that the chances of making hard corn are becoming less and less.

Sprays containing toxaphene at 2 lb. an acre, or dieldrin at 4 oz. an acre, have been giving good control. Granulated insecticides were applied by aircraft, and where the swath width was limited to the wing expanse of the airplane, good results came with 15 lb. 10% toxaphene granules an acre, 15 lb. 5% DDT granules an acre, or 8 lb. 2% endrin granules an acre. Where the swath width was expanded past 35 feet, however, control dropped very sharply in the outer rows.

For several weeks we have been mentioning webworms in alfalfa, but they are still a problem in many fields. Particularly they are a problem in alfalfa that has not been growing rapidly because of dry weather.

Adults of both the northern and southern corn rootworms are causing damage to silking corn in different communities scattered over the state. Heavily infested fields are widely scattered, but we have found them from the bootheel area to the Iowa line.

We have been finding blister beetles in soybeans in some areas. Only a few fields seem to be infested, but those will be seriously hurt in a short time if controls are not used. In soybeans, where residues are not a problem, dieldrin, at 8 ounces per acre, is giving excellent control.

Horsefly numbers are picking up in the eastern portion of the state. There's no real good control for horseflies. On dairy cattle that are in the stable every day, you can spray with an activated pyrethrum spray and get fair results. On cattle running in the pasture, however, there is no practical control.—Stirling Kyd and George W. Thomas.

Fungus Blight Hits Kentucky Lespedeza

LEXINGTON, KY.—Annual lespedeza crops are being hit hard by a fungus known as "aerial blight," William Stroube, Kentucky agronomist reports.

He said that little can be done about the blight and recommended that farmers harvest the lespedeza for hay if the blight becomes as serious as is likely if present high humidity conditions continue.

The fungus, he said, is most noticeable in areas where the rainfall has been unusually heavy. It kills the leaves from the bottom of the plant upward. The disease, Mr. Stroube declared, may cause a loss from 90 to 100% of the leaves and seriously reduce seed yields.

Alfalfa Aphids Increase Populations in Colorado

FT. COLLINS, COL.—The Colorado Insect Detection Committee reports that spotted alfalfa aphids have increased during the past week in Prowers, Bent, Otero and Crowley counties. They were detected for the first time this year at Fruita in Mesa County.

Surveys show that the second generation of sugar beet web worm has been emerging the past week in Morgan and Otero counties. Also numerous eggs are being observed.

Psyllids continue to be the most critical pest problem in the eastern counties and the San Luis Valley counties of Conejos, Costilla, Alamosa and Rio Grande. Evidence indicates that the first generation is emerging and it is recommended that all potato fields be treated.

Aphid populations are beginning to develop in certified fields in Rio Grande, Alamosa and Costilla counties. Growers are urged to follow this situation closely. A number of new aphicides are being tested at the Greeley experiment station to help potato growers improve aphid control.

In Mesa County, the corn ear worm and fall army worm are appearing in the corn fields. The corn ear worm is reported light in tomatoes, but the green peach aphid shows a high population in this crop.

In Rio Grande, Alamosa and Grand counties, a looper is causing serious damage in commercial plantings of head lettuce.

The Mexican bean beetle control has been difficult, with populations getting out of hand in some areas. Plans for new tests with insecticides are under way.

Kansas Reports Increased Alfalfa Aphid Activity

MANHATTAN, KANSAS—Spotted alfalfa aphids are increasing with hot dry weather. There have been many requests for information on systox or demeton since a recent conference on spotted alfalfa aphid in California. This systemic phosphate insecticide has the apparent advantage of not

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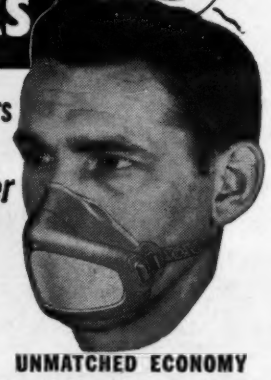

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ing beneficial insects feeding on aphid because the insecticide is the plant tissue.

himet, recently approved as a d treatment on alfalfa, has allowed ated plants to remain free of spot- alfalfa aphids for some 30 days. o, malathion at 1½ pt. 56% actual terial an acre, or parathion at ¼ an acre by aerial application is ommended for spotted alfalfa id control on established or seed- alfalfa.—David L. Matthew and l E. Gates.

otton Pests Plentiful as izona Harvest Begins

PHOENIX, ARIZ.—Cotton harvest under way in Maricopa, Pinal and ma counties, and from all appear- es the crop will compare favorably h that of last year. Lygus, stink s, bollworms, and cotton leaf per- ators are the principal insect pests, h Lygus still heading the list so as damage to the crop is concern- Counts ranged from 4 to 50 in st areas.

In Graham County, according to hn Sears, county agent, Lygus nts are high in most sections. Boll- rms are also widespread and quite h in population. Crop dusting is in gress but is being held up by ong winds.

Lygus counts in Pima County re- ain high, and bollworms are on e increase. A number of insecti- de failures have been reported, t in most cases lack of control uld be traced to windy weather d poor application.

Pinal County reports high Lygus nts in fields that have not been sted. A few bollworms are also owing up in the Casa Grande, Eloy, olidge, and Florence areas.

Field checks in Yuma County show ge Lygus populations in most dis- cts. Cotton leaf perforators are o bad, and merit immediate con- l in many instances. Some stink gs and bollworms were also noticed.

Lygus continue to be troublesome d widespread in Maricopa Coun- . Bollworms, stink bugs, and cot- n leaf perforators are also ap- earing in most sections of the unty. These last three, however, nerally have been kept under con- ol in fields that were dusted for gus.

Woolly worms are beginning to ap- r in the Buckeye, Tolleson, and oria districts and can be expected become more of a problem as the ason progresses. These pests start t as small colonies, gradually build- g up as time goes on.

When controlling leaf perforators, least two applications are usually eded from five to seven days apart. third may be necessary.—J. N. ney.

outh Dakota Sees Big ildup of Grasshoppers

BROOKINGS, S.D. — Grasshoppers ntinue to be the number one insect reat at the present time. Many corn lds in the southeast counties are ing invaded. Alfalfa is being dam- ed also. There is a very evident ild-up in numbers of M. mexicanus, e migratory grasshopper, and M. fferentialis, the large yellow differ- tial 'hopper. Egg laying will start on.

European corn borer pupation is ell underway and a few egg asses are showing up. The Nation- l Corn Picking Contest field in Lincoln County had about 8 egg asses per 100 plants on Aug. 6. t generally pays to treat for sec- nd brood when there are 100 egg asses per 100 plants.

Farmers leaving their alfalfa for ed this year because of the large y crop from the first cutting, are st providing a good breeding area r grasshoppers and Lygus bugs. st about all fields which have not en treated for Lygus and 'hoppers are a total loss as far as seed is concerned; there are no blossoms or leaves left on them—just stems. Fields which have been treated and where pollination has been satisfactory are setting on a pretty good seed crop.—John A. Lofgren.

Aster Yellows Disease Hits Flax in Minnesota

ST. PAUL, MINN.—Aster yellows disease this summer is making the heaviest attack to date on Minnesota flax fields, reports Herbert Johnson, extension plant pathologist at the University of Minnesota. There are signs of the disease in all areas of the state where flax is grown, he says. However, no fields have been noted so far where damage from aster yellows is so great that the field shouldn't be harvested.

Where the disease hits, flowers stay green instead of turning blue and bolls fail to develop. Still, a single plant may have some diseased flowers and still have others that develop normal bolls. Yield reduction is usually proportional to the number of diseased flowers.

The disease is spread by leafhoppers. The virus of the disease can live from one year to the next on perennial weeds, such as thistles.

Corn Borers, Armyworms Hit Maryland Crops

COLLEGE PARK, MD. — Infestations by second generation European corn borers have been generally light. Some second generation egg masses are being found in Frederick County. Corn borer will probably increase.

Fall armyworms are injuring late corn in Southern Maryland and on the Eastern Shore. A very heavy infestation was noted on late field in Anne Arundel County.

Corn leaf aphids have caused spotty injury to field corn in Prince George's, St. Mary's and Talbot counties. They work primarily in the top leaves and tassels. Corn earworm is expected to be heavy in late sweet corn.

Green peach aphids are from moderate to heavy on tobacco and in most cases need to be controlled. Apparently weather conditions have been very favorable for aphid development and treatment with parathion by aircraft is general. At least 2,000 acres have been treated to date.

Second-brood hornworm eggs and young worms were found on tobacco in St. Mary's and Anne Arundel counties. Hornworms should be controlled before the crop is stored.

Potato leafhoppers and spider mites are generally abundant on snap and lima beans. Use 1 qt. 50% malathion emulsion an acre to control leafhoppers and mites. Green clover-

(Continued on page 20)

36%

used in the

15 S. F. states

To feed the nation better every year takes bigger and better corn-fed crops . . . eggs, milk, poultry, and livestock . . . and the corn-lands have a big appetite for fertilizer!

So it is hardly surprising that in 1955, fifteen major corn-belt states in the Agricultural Heart bought more than 7,400,000 short tons of fertilizer—36% of US consumption. In these states SUCCESSFUL FARMING concentrates 87% of its circulation.

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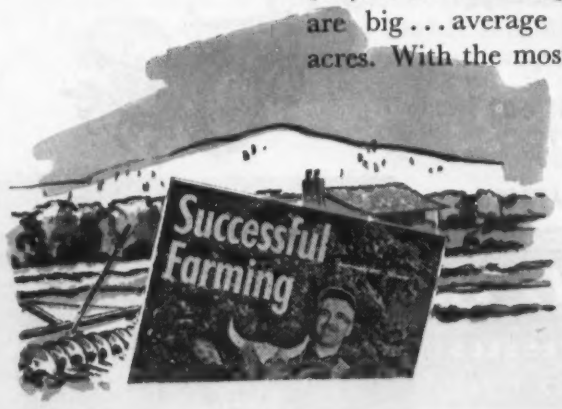
Ask the nearest SF office to tell you all the data and details.

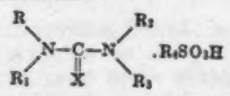


MEREDITH PUBLISHING COMPANY, Des Moines . . .
with offices in New York, Chicago, Detroit, Philadelphia, Cleveland, Atlanta, San Francisco, and Los Angeles.

Industry Patents and Trademarks

2,801,911

Substituted - Urea Sulfonic Acid Herbicides. Patent issued Aug. 6, 1957, to Everett E. Gilbert, Flushing, Julian A. Otto, Long Island City, and Silvio A. Pellerano, Brooklyn, N.Y., assignors to Allied Chemical & Dye Corp., New York. A compound suitable for use as a herbicide having the formula:



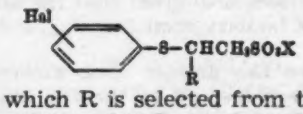
wherein R represents a group selected from the class consisting of a cyclic hydrocarbon radical, an alkyl substituted cyclic hydrocarbon radical, an aryl substituted cyclic hydrocarbon radical and their halogen substitution products; R_2 represents an aliphatic hydrocarbon radical; X represents a group selected from the class consisting of O and S; R_1 and R_3 represent a group selected from the class consisting of a hydrogen radical and an aliphatic hydrocarbon radical; and R_4SO_3H represents a sulfonic acid selected from the group consisting of dodecyl benzenesulfonic acid, naphthalene-B-sulfonic acid, benzenesulfonic acid, p-toluene-benzenesulfonic acid, ethanesulfonic acid, methanesulfonic acid, 2,4,6-trichlorobenzenesulfonic acid, and diphenyl-p-p'disulfonic acid.

2,801,983

Soil Stabilization. Patent issued Aug. 6, 1957, to James K. Dixon and Russell L. Morgan, Riverside, Conn., assignors to American Cyanamid Co., New York. A process for treating soil which comprises incorporating a polymerizable water-dispersible material substantially free of alkylidene bisacrylamides and of the group consisting of methylol acrylamide, methylol polyacrylamide and polymethylol acrylamide into soil and polymerizing the polymerizable matter in the resulting composition in the presence of an oxygen-containing polymerization catalyst at naturally occurring temperatures to a substantially water-insoluble state in contact with natural soil substantially within the surface of the earth in the presence of water.

2,802,027

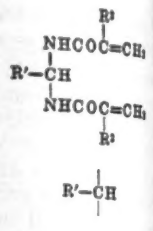
Plant Growth Regulant. Patent issued Aug. 6, 1957, to Van R. Gaertner, Dayton, Ohio, assignor to Monsanto Chemical Co., St. Louis, Mo. A 2 - (halophenylmercapto)-l-alkanesulfonate salt of the formula



in which R is selected from the class consisting of hydrogen and alkyl radicals of from 1 to 5 carbon atoms, X is selected from the class consisting of alkali metal, alkaline earth metal, and ammonium, and Hal is a halogen atom selected from the class consisting of chlorine and bromine.

2,801,985

Soil Stabilization. Patent issued Aug. 6, 1957, to Roy W. Roth, Stamford, Conn., assignor to American Cyanamid Co., New York. A process for treating soil which comprises applying to soil a copolymerizable mixture comprising (a) a monomeric alkylidene bisacrylamide of the formula

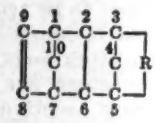


in which

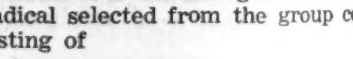
is a hydrocarbon residue of an aldehyde and R^2 is of the group consisting of hydrogen and methyl, and (b) another ethylenic monomer copolymerizable with (a) the relative weight of (a) to (b) being within the range of from about 0.005:1 to about 0.2:1, respectively, and the weight ratio of said copolymerizable mixture to soil being from about 1:5 to about 1:200 parts, and converting said soil and polymerizable mixture to a substantially water-insoluble state by a copolymerizable reaction in the presence of a two component redox catalyst system comprising from about 0.1% to about 10%, based on the weight of the copolymerizable material, of nitrilotrispropionamide as an essential component and an oxidizing agent as the second component.

2,802,012

Polycyclic Insecticidal Compounds. Patent issued Aug. 6, 1957, to Jerome G. Kuderna, Denver, Colo., assignor to Shell Development Co., New York. The compound of the formula



wherein R is the nitrogen containing radical selected from the group consisting of

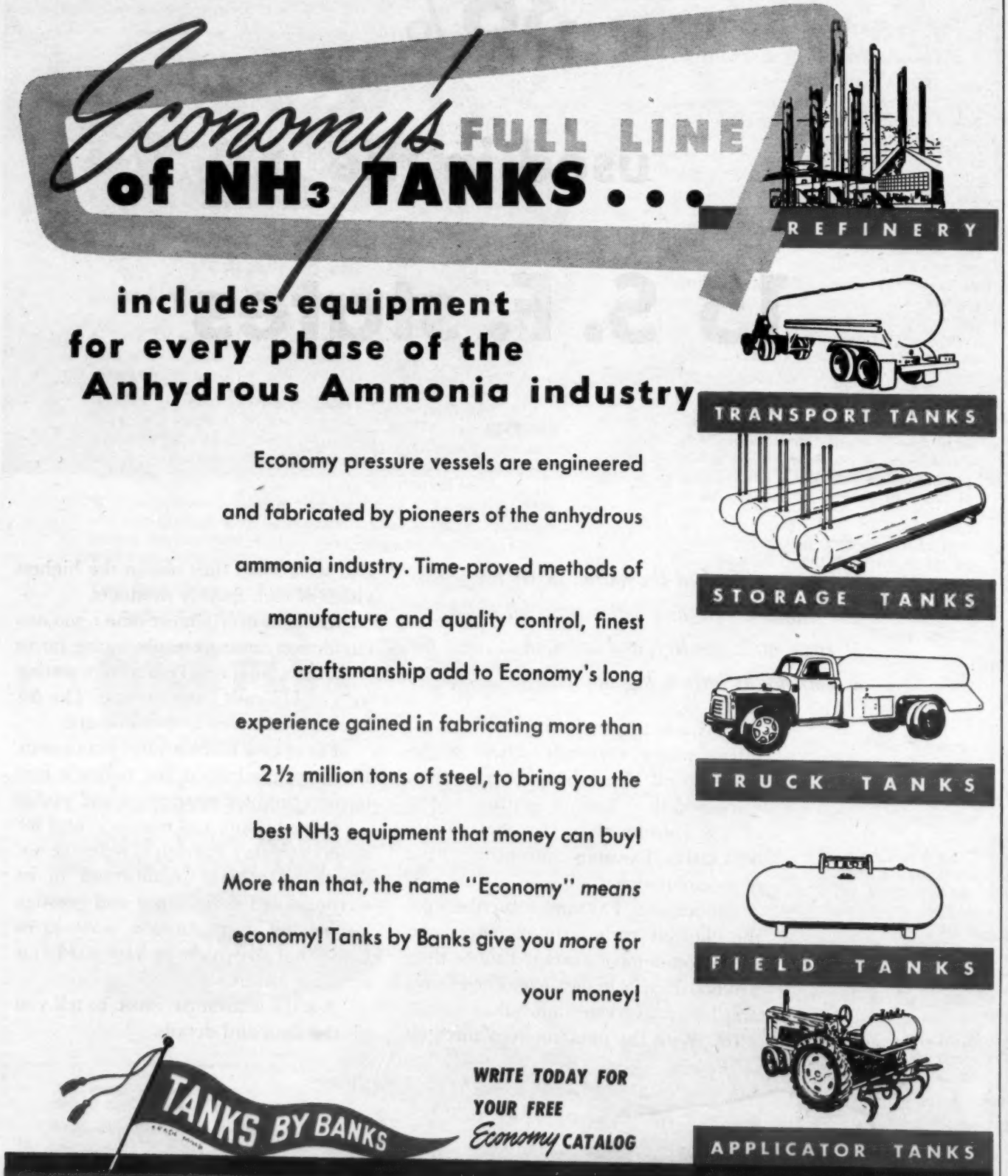


in which R' is a member of the class selected from the group consisting of hydrogen, lower carbalkoxy, lower carbaroxy, lower carbocycloalkoxy, formamido, formamidine, lower alkyl, nitroso, lower aryl and nitro group, and wherein the nucleus is substituted at the 2, 3, 4, 5 and 6 positions by a member of the class selected from the group consisting of hydrogen and lower alkyl, and wherein the 1, 7, 8 and 9 positions are substituted by a member of the class selected from the group consisting of hydrogen, halogen and lower alkyl, and wherein the 10 position is substituted by a member of the class selected from the group consisting of hydrogen, halogen, lower alkyl and lower alkoxy, and salts thereof selected from the group consisting of inorganic acid salts and organic acid salts.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20 to 20.5.) As provided by Section 31 of the act a fee of $25 must accompany each notice of opposition.

Frontier Chemical Co., in a "streak of lightning" drawing, for benzene hexachloride and other chemicals. Filed March 9, 1956, by Union Chemical & Materials Corp., doing business as Frontier Chemical Co., Division of Union Chemical & Materials Corp., Wichita, Kansas. First use on or be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e June 7, 1948, on hydrochloric
d.

BZ, in capital letters, for fungicide. ed Sept. 19, 1956, by The Upjohn , Kalamazoo, Mich. First use June 1956.

Dyrene, in capital letters, for foli- fungicides. Filed Nov. 2, 1956 by emagro Corp., New York. First use t. 24, 1956.

Trans-Gro, in capital letters, for tilizer. Filed Jan. 7, 1957, by Hy- Corp., Baltimore, Md. First use g. 15, 1956.

Frontier, in hand-lettered capital ters made to appear rustic, for nzene hexachloride and other chem- ls. Filed March 9, 1956, by Union emical & Materials Corp., Wichita, nsas. First use on or before June 1948, for hydrochloric acid.

Frontier, with the name on a shield picting silhouette outline of man, chemicals including benzene hexa- oride. Filed March 9, 1956, by ion Chemical & Materials Corp., chita, Kansas. First use on or be- e May 13, 1954.

Deehex, in capital letters, for live- ck spray and dip. Filed March 16, 56, by Florida Chemical Industries, c., Gainesville, Fla. First use Sept. 1955.

Omadine, in capital letters, for sticide for agricultural use. Filed g. 24, 1956, by Olin Mathieson emical Corp., New York. First use ly 13, 1956.

707, in heavy type, for insecticides. led Feb. 7, 1957, by Bengal Co., ew York. First use Aug. 23, 1948.

Spred-O-Pak, in capital letters, for anular fertilizer sold in a dispensing ntainer. Filed May 16, 1956, by gricultural Products Corp., Webster ty, Iowa. First use March 14, 1956.

Land O' Lakes Aqua Sol, with last o words enclosed in circle. Filed ne 28, 1956, by Land O' Lakes reameries, Inc., Minneapolis, Minn. irst use Sept. 15, 1955; Dec. 15, 41, as to "Land O' Lakes" and pic- rial representation.

Terra-Zyme, in capital letters with ttom side of letters in shape of rc, for organic fertilizers. Filed Jan. 1957, by Roy E. Hoover, doing busi- ess as Hoover Soil Service, Gilman, l. First use Oct. 1, 1956.

Mineralag, in capital letters, for lant nutrient material for addition soils. Filed Jan. 9, 1957, by Mineral ggregates Corp., Denver, Col. First se Aug. 1, 1956.

Duphar, design in oval shape, for hemical substances and preparations r destroying weeds, fungi, insects nd other animal and organisms and r fighting plant diseases. Filed Dec. 8, 1955, by N. V. Philips-Roxane harmaceutisch-Chemische Industrie Duphar," Amsterdam, Netherlands.

Basilit, in capital letters, for chem- cal composition for impregnating nd preserving wood. Filed May 3, 956, by Osmose Wood Preserving o. of America, Inc., Buffalo, N.Y. irst use March 29, 1956.

Aaventa, in old English letters, r nematocide. Filed Dec. 13, 1956, y Naamloze Vennootschap Land- ouwbureau M. Wiersum, Groningen, Netherlands. First use November, 952; in commerce Feb. 26, 1955.

Randox, in capital letters, for hemical toxicants for use in mak- ng or formulating agricultural in- ecticides, fungicides and herbicides, nd formulations of agricultural in- ecticides, fungicides and herbicides ontaining chemical toxicants. Filed an. 28, 1957, by Monsanto Chem- al Co., St. Louis, Mo. First use May 5, 1948, on chemical toxicants.

Internatio, within a circle, for hemical products used in agricul- ure, i.e., ammonium sulphate used s a fertilizer. Filed Aug. 15, 1955 y N. V. Internationale Crediet-en- Handles - Vereeniging "Rotterdam," Rotterdam, Netherlands.

Design in rectangular form, con- aining prominent letter "E" and ord "Escambia" for fertilizer. Filed an. 9, 1957, by Escambia Chemical Corp., Pensacola, Fla. First use July 1, 1956.

PX-1, in capital letters, for foliar nutrients. Filed Jan. 15, 1957, by Agricultural Chemicals, Inc., near Walnut Grove, Cal. First use on or about March 1, 1954.

GARDEN TRADE SHOW

PORTLAND, ORE.—In the first ten days after the release by the Oregon Feed and Seed Dealers Assn. of brochures announcing the seventh annual Northwest Garden Supply Trade Show, more than half of the available booth space was reserved, according to Frank Stewart, show chairman. The show, which will be held Oct. 29-30 in the Grand Ballroom, Masonic Temple here, will feature a total of 55 booths. The trade show committee has formulated plans for a new and different type of floor plan, an improved series of sales clinics and a novel method of awarding prizes.

Gifts to University Of California Listed

BERKELEY, CAL.— Gifts totaling more than $18,000 were made to the division of agricultural sciences of the University of California during June for the support of several research studies in the field of agricultural chemicals.

Largest single donation of the month was a grant of $5,000 made by the Grower-Shipper Vegetable Assn. for vegetable disease investigations, with special reference to problems in the Salinas area. Second in size was a grant by the California Planting Cotton Seed Distributors amounting to $4,636.69 for cooperative weed control research, in conjunction with the Shafter Experiment Station of the U.S. Department of Agriculture, and the California Planting Cotton Seed Distributors.

Rohm & Haas Co. gave a total of $3,600 for three separate research studies, including work on cotton in soils and plant nutrition, work on corn to determine male sterilization and as systemic herbicides and work on tomatoes, lettuce, spinach and other crops to prevent bolting.

Monsanto Chemical Co. gave $3,000 for studies in entomology; and Stauffer Chemical Co. gave $1,500 for research on Trithion and related compounds for control of mites and insects; and screening of new compounds against soil fungi and for further research on Vapam.

Two additional gifts of $500 each were made by the Diamond Alkali Co. for research on chemicals of potential value as nematocides, and by Gerber Products Co., for studies on chemical spray thinning and harvesting apples in the Watsonville area.

CROP DUSTER KILLED

BRADLEY, ARK.—Edd Lee Lovejoy, 26, Baytown, Texas crop duster, was killed July 30 when his plane crashed in a field near here.

Why you'll sell more Grace Urea Prills This Fall

Its special properties help build a more profitable business for you

In the fall of the year, you'll find Grace Urea Prills offer you a real opportunity for *extra* profits.

That's because Grace Urea Prills is a *superior* nitrogen fertilizer *ideal* for fall application.

Your customers can use Grace Urea Prills profitably for:

✓ Plow-down of crop residue. (Hastens decomposition of the fiber, so that it will not interfere with new plant growth in the spring.)

✓ Broadcast for small grains.

✓ Fall fertilization of pastures.

Recommend these uses to your customers. And be sure you supply them with Grace Urea Prills. This special free-flowing form of urea "weathers" wonderfully. Its anti-leaching quality is definitely superior to other solid nitrogen fertilizers. And it is *guaranteed 45% nitrogen.*

To build up the nitrogen content in *liquid* fertilizers, use either Agricultural Grade Grace Crystal Urea or Grace Urea Prills. Both dissolve readily, *stay* dissolved.

Grace Chemical Company

A DIVISION OF W. R. GRACE & CO.

MEMPHIS, TENN.

WORLD REPORT

By GEORGE E. SWARBRECK
Croplife Canadian and Overseas Editor

The Australian authorities are making a widespread search for sources of phosphate throughout their territories. The need is not feverish yet, but in another 50 years or so two of the main sources of supply are likely to be exhausted.

Australia's present consumption of superphosphate is 1.3 million tons a year. This is supplied as phosphate rock from the Australian trust territory of Nauru Island and Ocean Island in the Pacific, and Christmas Island in the Indian Ocean. Members of the Bureau of Mineral Resources estimate that the supplies on Nauru and Ocean Islands cannot last more than 50-odd years at the most.

The British have some rights of extraction, too, but they do not take up the whole of their quota at the present time, preferring to use North African supplies because of the shorter haul.

With the assistance of the British and New Zealand governments, the search will extend to many parts of the south Pacific Ocean, including New Zealand and its territories, and Fiji. Arrangements are now being made to begin the search in the islands off the coast of Australia's northern coast.

Finland Fertilizer Developments

The consumption of fertilizers in Finland during 1956 totaled 676,000 tons, with an upsurge in the use of mixed fertilizers predominating. Three fertilizer mixing plants owned by the Finnish Sulfuric and Superphosphate Co. are producing together 300,000 tons a year. The Typpi Co. recently started production at a new nitro-phosphate-based mixed fertilizer plant, with a capacity of 65,000 tons a year.

Dutch Plant Expands

Increased production facilities have been completed by N. V. Maatschappij tot Exploitatie van Kooksovengassen of Holland. The expanded plant increases capacity by around 25,000 tons of pure nitrogen, corresponding to about 125,000 tons of nitrogenous fertilizers, in a full year. The plant is now ready to go "
stream."

In 1956 the Dutch company p
duced 73,182 tons of pure nitrog
compared with 72,873 in the previo
year.

At the end of last year, expo
prices of nitrogenous fertilize
showed a steep decline and that d
cline has continued into the curre
year. Accordingly, the company
not expecting this year's results
be as good as those recorded in p
vious years.

Chilean Nitrate Output

The output of Chilean nitrate
1956 hit a new low for the past fi
years. Production has been estimat
at 1,159,000 metric tons. The decrea
is attributed to the prolonged stri
which tied up the plants of the An
Lautaro Nitrate Corp., involving
loss of 29,000 tons.

Belgium, Holland, Denmark a
Sweden, trade sources report, ha
renewed their contracts for the pu
chase of nitrate and will pay in co
vertible currencies. Negotiations wi
France for the renewal of the tra
agreement are in prospect and it
hoped that the French governme
will grant permits for the import
at least 120,000 tons of nitrate du
ing the year ending June 30, 1958.

Sulfuric Acid in Mexico

Three new sulfuric acid plants a
reported to be in the planning sta
in Mexico. Consumption is expect
to reach a total of 240,000 tons
1960 and the new plants, it is e
visaged, will provide the new su
plies.

**The country now has 13 plant
with a total annual capacity o
194,000 metric tons. In 1950, in
stalled capacity was only 63,14
tons.**

Production in 1956 was calculat
at 161,483 tons with imports provi
ing a further 2,628 tons. The fer
lizer industry takes up 58% of t
present output and it is expected th
the proportion demanded by the tra
will increase by 1960, in view of t
government's accent on expand
agricultural production.

Briefs . . .

The Japanese Ammonium Sulfa
Assn. reports that Japanese bidde
have secured contracts from the U.
International Cooperation Admini
tration for the supply to Korea
200,000 tons of ammonium sulfa
and 15,000 tons of urea. Total qua
tities requested by ICA on this pa
ticular procurement were 373,000 a
40,000 tons respectively.

● ● ●

The joint enterprise of Pakista
and American interests in the ere
tion of a fertilizer factory at Da
Khel in Pakistan has been delay
because of the failure of some of t
machinery to arrive. A similar fa
tory, with a capacity rating of 6.0
tons of superphosphate a year, is
be erected at Lyallpur.

● ● ●

In the fertilizer year of 1955-5
Danish agriculture hit an all-tim
high in fertilizer usage with a to
of 1.5 million tons.

ARMYWORM WARNING

WINNIPEG—Saskatchewan farm
ers have been advised to check th
flax and rapeseed fields for signs
armyworms. However, H. A. Cra
Manitoba director of weeds and pu
lications, has reported there is
threat of the insects in this provin
as yet. He explained that the worm
could develop in Manitoba "ove
night," however.

Let the man from Sohio show you how to cut formulation costs

THERE'S many a way to skin a cat — solve your formulation problems — *and cut costs* — when you have Sohiogen solutions to back you up.

In many cases, a simple change in materials . . . rate of ammoniation . . . or chemical and physical characteristics can make differences in formulation results and cost of manufacture.

The complete line of Sohiogen nitrogen solutions offers greater flexibility of formulation. No other nitrogen producer offers a more complete line.

What's more, the man from Sohio is trained to help you in your selection. He knows formulation problems. And, he's prepared to work out advantages of shipping and handling . . . or show you ways to use Sohiogen's increased flexibility to greatest cost-cutting advantage.

So call the man from Sohio. He'll be glad to help. And you'll be glad he did.

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Special Merchandising Section

Better Selling

Marketing News and Features

LIQIUD FERTILIZER—Russell Legreid, Legreid Farm Service, Mason City, Iowa, points to the truck tank which is used for transporting mixed liquid fertilizer to his customers. He has seven application outfits for applying anhydrous ammonia and liquid fertilizers.

Fertilizer and Applicating Equipment Form Profitable Team, Iowa Dealer Says

By AL P. NELSON
Croplife Special Writer

When anhydrous amomnia first began to make its appearance in the Iowa corn belt some years ago, Russell Legreid of Mason City, Iowa, was one of the first in that area to recognize its importance and the potential market for it.

So, several years ago he set up the Legreid Farm Service at nearby Emery, Iowa, and he has been building a profitable business ever since. From the beginning, too, he realized that while anhydrous ammonia is an excellent source of nitrogen, that he would need to sell other fertilizer if he hoped to be able to offer farmers complete analysis fertilizers. Soon after he took on a line of liquid fertilizer. Today he sells anhydrous and also complete mixed fertilizers. His business is largely with corn farmers in the area, although some of them also raise considerable oats and other grains.

Mr. Legreid and his crews supplied anhydrous ammonia last year to about 20,000 acres in the Mason City area, and about 10,000 acres on mixed fertilizer. He buys his mixed fertilizer from a plant at Belmond, Iowa, and he believes that this type of fertilizer will grow in popularity.

Mr. Legreid has seven application outfits for applying anhydrous and also the mixed fertilizers. He says he likes to tie in the applicating with the sale of the fertilizer. Thus he is closely allied with the farmer in this important fertilization process and can help him get as high yields as possible. There are some private custom applicators, however, who buy anhydrous ammonia from the Legreid Farm Service.

In this part of Iowa, Mr. Legreid and his crews are able to apply anhydrous from April 10 to approximately Oct. 15, but sometimes it can be applied until Thanksgiving, if the weather is right. Mixed liquid fertilizers are applied from March 25 until Nov. 25. By handling both types of fertilizer, Mr. Legreid feels that he has been able to round out his business volume much better with an excellent future potential.

Last year, as an advertiser on a farm page section in the Mason City Globe Gazette, Mr. Legreid and his service were the subjects of an article and photos in the business part of this edition. The article explaning the use of anhydrous ammonia in modern farming was clear and easy for the average farmer to understand. The copy read, in part:

"Farmers are discovering that their fields which need nitrogen can get it economically and in quantities from a liquid fertilizer called anhydrous (for waterless) amomnia.

"The value of ammonia's high nitrogen content has long been known but only recently have the problems of scarcity and special equipment for handling anhydrous ammonia been solved. This year an estimated 400,000 tons of anhydrous ammonia will fertilize more than 10 million acres in 40 states. Last year it was used on more than 20,000 acres in Cerro Gordo County alone.

"Anhydrous ammonia used in this area has shown farmers that with the proper amount of phosphorus and potash that they get remarkable returns, according to Russell Legreid, owner of Legreid Farm Service located on Highway 106 at Emery. Four-fifths of the ammonia by weight is nitrogen. The fertilizer is sold on a weight basis.

"The application is made from preplant in the spring to sidedressing the corn and also late in the fall for the following year's crops. Anhydrous ammonia is applied with a special machine which injects the

(Continued on page 12)

SHOP TALK

OVER THE COUNTER

By Emmet J. Hoffman
Croplife Marketing Editor

"Sales opportunities galore" exist for farm chemicals on tomorrow's farms, it is emphasized in Fortune Magazine's newly released motion picture film, "The Bright Promise of the American Farm Market."

The short, lively movie does an excellent job of spelling out present and future opportunities awaiting dealers in the many-faceted sales area of agriculture. In addition to fertilizer and other farm chemicals, agriculture promises unusual sales opportunities for food processors, equipment, feeds, fuels, supplemental irrigation, improved animal and plant productivity products, and for electrification, vacuum cooling and refrigeration industries. It can be seen that a number of these have a close relationship, for example, fertilizer and irrigation.

Research will continue to provide new uses for farm products, the movie points out. Almost directly, all farm dealers benefit from the fruits of research.

There is one important point to be emphasized in the business of selling farm chemicals. The Fortune movie concerns mainly the two million commercial farms who rank as the big producers. They are all—actual or prospective—farm chemical users.

But there are also millions of farmers who work off the farm part time. Whether the farm is operated by a full time or part time farmer, the land in either case needs fertilizer and other farm chemicals.

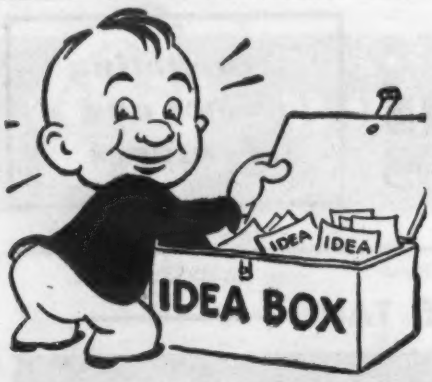
The farm chemical market is just as large, whether the farmer is full time or part time. The big difference is that the commercial and trained farmer can more easily be sold on the practice of using adequate quantities of plant food and crop chemicals.

RINGING THE CASH REGISTER

Premium Ups Sales

Test marketing of one product of a farm chemical manufacturer in 1956 resulted in an over-all sales increase of 241% when a pair of work gloves was attached as a premium. The test marketing was done in widely separated areas, all of which showed sales increases when the premium was used. The work glove was a leather-palm style ideal for farm and garden work. The premium was provided at no extra cost. One glove was displayed outside the package and one was inside. A special label and store banners helped promote the free glove offer. The company plans to widen the work glove promotion this fall.

A SIGN HELPS—When a farm supply dealer is stymied by an off-the-main street location, he can often overcome this disadvantage to a certain degree by buying a display space for a sign on a building which is on this well traveled main street. This is what Southeastern Supply Co., Waukesha, Wis. has done, and to good effect. The large sign, placed on the side of a laundry building which many motorists can see—including farmers coming to the city to shop—is done in black, white and red. A large red arrow also points the way to the location of the farm supply store—only a block distant.



What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 5757—Seed Treatment Booklet

"The Benefits of Modern Seed Treatment" is the title of a new 16-page booklet published by Panogen, Inc. According to the company, material in the booklet has been selected and checked by extension pathologists and is designed to be "easy to read and nontechnical." "Seed treatment benefits are sometimes misunderstood and many farmers do not recognize the crop benefits and profits involved," the company adds. Contents include sections on: When does it pay to treat seed?, history of seed treatment, how seed treatment works, vapor action, reasons for treating wheat, oats, barley, flax, cotton and other crops, and how to treat seeds. Nearly 50 photos are included. Secure the booklet by checking No. 5757 on the coupon and mailing it to this publication.

No. 5765—Self-Dumping Hopper

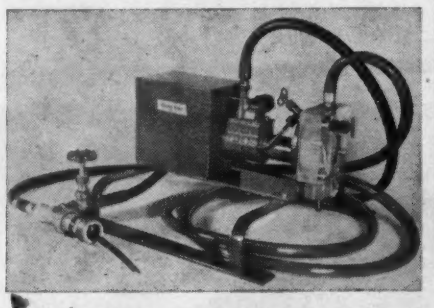
A new self-dumping hopper 30 in. wide, designed for handling bulk materials through narrow aisles and in confined areas, is available from Roura Iron Works, Inc. The hopper has a capacity of 10 cu. ft. and is mounted on three casters, permitting manual or truck fork handling. The self-dumping action is triggered when the operator releases a locking handle on the rear of the hopper. The hopper is of heavy steel plate, weighs 450 lb. empty, is 49 in. long and is 40 in. high. The 30-in. width is standard but narrower widths are also available. Details will be sent upon request. Check No. 5765 on the coupon and mail it to this publication.

No. 6619—Miticide

A technical service bulletin titled Chipman 6199, which is also the trade name of a miticide and scalicide, has been prepared by the Chipman Chemical Co., Inc. The bulletin describes the product's use on non-bearing citrus. The product is described as "a granular, non-dusty, organic phosphorus compound—readily soluble in water for spray applications." It contains a bright violet dye so that accidental spillage can be easily detected. Secure the bulletin by checking No. 6619 on the coupon and mailing it to Croplife.

No. 6618—Injector

Literature concerning the Arcadia injector model 4575 for the injection of fertilizers into sprinkler irrigation systems has been prepared by the Arcadia Pump Manufacturing Co. The system is powered by irrigation pressure. One ⅜-in. pipe opening is needed to connect with the injector. The



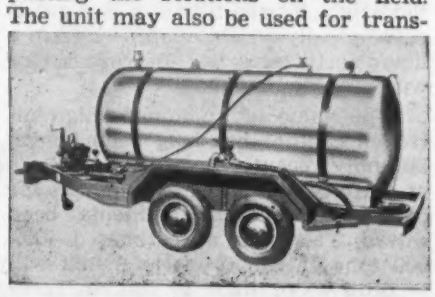
unit is said to be light, compact and easy to operate, and includes a plastic fertilizer suction hose and power and injector hoses ready to operate. The line of flow of fertilizer through the injector has no effect on the working parts of the pump. The fertilizer capacity is one of 45 gal. per hour. Recommended water pressure is from 35 to 150 p.s.i. The shipping weight is 18 lb. For details check No. 6618 on the coupon and mail it to Croplife.

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6615—"Nurse Tank" Transport

General Metals, Inc., is now in production on a new trailer-mounted "nurse tank" transport designed for hauling nitrogen solutions and liquid fertilizers from storage tanks to the farm and out to the field. It serves as a source of supply for trailer or tractor applicator units and is used in putting the solutions on the field. The unit may also be used for trans-



porting insecticides, weed killers, and other liquid products. The tank holds 1,000 gal. It is made of aluminum alloy to withstand 30 p.s.i. working pressure. To receive literature, prices and other information check No. 6615 on the coupon and mail it to Croplife.

No. 6599—Chemical

The Crown Zellerbach Corp., chemical products division, announces increased production of dimethyl sulfide, a basic and intermediate chemical, claimed to be more than 99% pure. Company spokesmen said the chemical is useful both for its physical properties and as an intermediate, but that it may find its major use as a raw material in chemical synthesis, for example, for making solvents, polymers and chemicals for agricul-ture. Reduced cost of the chemical i also announced. Secure a bookle "Properties and Suggested Uses o Dimethyl Sulfide," by checking No 6599 on the coupon and mailing it t Croplife.

No. 6600—Spray Tolerances

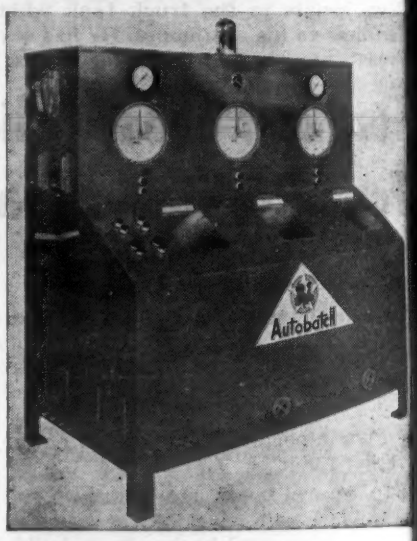
United-Heckathorn is offering, fre of charge, a wallet size folder con-taining a list of agricultural chemical spray tolerances giving the time limitation in days before harvest o various crops. The folder is in con-densed form from information pro-vided by the U.S. Department o Agriculture. To secure the folde check No. 6600 on the coupon an mail it to Croplife.

No. 6617—Gopher Control

Cooke Laboratory Products has available literature on its product known as Gopher Tabs. The litera-ture states that University of Cali-fornia field demonstrations with field and forage crop producers, vegetable and flower growers and home garden-ers show excellent kill results. The product contains .6% strychnine alka-loid. Check No. 6617 on the coupon to secure the literature.

No. 6616—Automatic Control Unit

A new, completely automatic con-trol unit for batch-type processing of neutral solution liquid fertilizers has been introduced by the Barnard & Leas Mfg. Co., Inc. The "B&L



Autobatch" is designed to meter phos-phoric acid, aqua ammonia or other suitable nitrogen solutions, and water in pre-selected amounts and deliver them simultaneously to an auxiliary batch-mixing unit. It is completely self-contained and factory assembled, company officials say. The unit was developed primarily for B&L batch-type neutral solution fertilizer pro-cessing plants. It may be used also to convert manually operated plants to automatic operation. Complete in-formation on the equipment and neu-tral solution liquid fertilizer process-ing is available by checking No. 6616 on the coupon and mailing it to Crop-life.

No. 6601—Toxaphene Folder

The use of toxaphene insecticides to control various insect pests which attack tomatoes is described in a new folder issued by the Hercules Powder Co. The leaflet discusses typical ap-plications for the control of tomato hornworm, tomato russet mite, flea beetles, vegetable weevil, cutworms, tomato fruitworm, and blister bee-tles. To secure the folder check No. 6601 on the coupon and mail it to Croplife.

No. 5725—Yard Ramp

The Lite-Line Metal Industries of Copperloy Corp. has introduced a new, magnesium, yard ramp. This portable ramp permits freight car

Send me information on the items marked:

☐ No. 5725—Yard Ramp	☐ No. 6612—Mixer
☐ No. 5757—Seed Treatment	☐ No. 6613—Gravity Application
☐ No. 5765—Hopper	☐ No. 6614—Drying System
☐ No. 6588—Sulfur Brochure	☐ No. 6615—Nurse Tank
☐ No. 6599—Chemical	☐ No. 6616—Automatic Control
☐ No. 6600—Spray Tolerances	☐ No. 6617—Gopher Control
☐ No. 6601—Toxaphene	☐ No. 6618—Injector
☐ No. 6610—Laboratory Mill	☐ No. 6619—Miticide
☐ No. 6611—Weed Control Guide	

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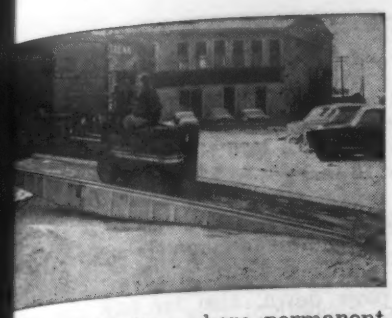


nd truck loading where permanent ock facilities are not available, here existing facilities are over-axed, or where special loading prob-ems necessitate a portable dock. The amp makes use of magnesium com-ined with a carefully engineered tructural design to make it light nd easily portable. One man can ove and position the ramp, which s 30 ft. long and is available in our models, from 6,000 to 16,000 lb. apacity. Secure complete details by hecking No. 5725 on the coupon and ailing it to this publication.

No. 6612—Turbine Type Mixer

The T. L. Smith Co. has introduced a mixer incorporating new design principles. The mixer is said to fit in-to spots too low for many types of mixers and "mixes so thoroughly that it actually homogenizes the materi-als." The mixer has a doughnut shaped mixing drum. The drive me-

chanism is located in the center of the drum. The drum shape is claimed to provide a "live mix" and eliminate dead centers in the mixing area. The mixer has application in the fertilizer and chemical industries, the manufac-turer states, and it is possible to use a forced air exhaust so as to dis-sipate fumes and harmful gases. The blade action gives virtually instan-taneous mixing for dry batches, ac-cording to the company. The mixer is made in three sizes: 17½-, 35-, and 53-cu. ft. dry batch. It can be used as a stationary or portable mixer. Secure details by checking No. 6612 on the coupon and mailing it to Croplife.

No. 6610—Laboratory Pellet Mill

The California Pellet Mill Co. has available a laboratory pellet mill which is claimed to have broadly div-ersified application in various chemi-cal industries. Essentially, the equip-ment is designed to compress loose or fine particles into hard pellets. Ad-vantages of the laboratory pellet mill, according to the company, are: Adds flexibility to plant operations by al-lowing the plant to make its own tests and experiments; better test control; no interruption in regular production runs because a regular pellet mill need not be used; and con-tamination due to experimental ma-terials being mixed with regular pro-duction runs is avoided. Secure de-tails by checking No. 6610 on the coupon and mailing it to Croplife.

No. 6613—Gravity Application

A new gravity application kit, de-signed to provide more accurate ap-lication of fumigants, has been de-veloped by Fabricated Metals, Inc. The unit attaches to a tractor. Liquid flows by gravity from a supply tank through metering tubes that regulate rate of flow to ground applicators. From two to six outlet headers may be used. The kit is described in a data sheet available free. To receive it check No. 6613 on the coupon and mail it to Croplife.

No. 6611—Weed Control Guide

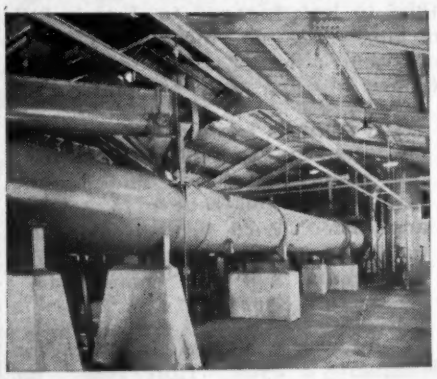
The soil building division, Cooperative GLF Exchange, Inc., has available its 1957 chemical weed control guide. A copy is available without charge. Check No. 6611 on the coupon and mail it to Croplife.

No. 6588—Sulfur Brochure

The Stauffer Chemical Co. has pub-lished a comprehensive 48-page brochure on sulfur. The brochure con-tains a description of production and refining techniques, statistics on the world's production of sulfur, and notes on the various uses of the ma-terial. It also includes specifications for the several types of conventional and insoluble sulfurs used in industry and agriculture, and tabulations of the physical and chemical properties of sulfur in its different forms. A copy of the brochure, "Stauffer Sul-furs," is available free on request. Check No. 6588 on the coupon and mail it to Croplife.

No. 6614—Waste Drying System

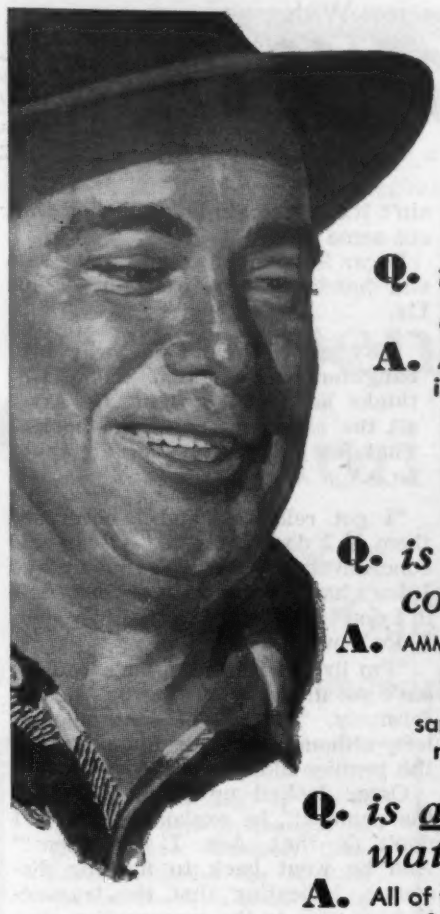
The Standard Steel Corp. has de-veloped a new drying system for treatment of sewage sludge and in-dustrial wastes. The basic unit in the system is the Standard-Hersey rotary dryer which can handle sludge of 75-80% moisture, reducing it to 6% moisture, according to company offi-cials. The officials state: "A saleable product of uniform particle size, fri-able and non-dusty in character, is obtained. This product can be treated to a definite pH (by adding ferrous



sulphate to lower pH or lime to raise it) and can be improved as a fertil-izer by easy addition of nitrogen and phosphorus. The process lends itself to simple addition of chemicals. The dryer serves as an excellent mixer and the sludge is a good carrier of additives because of its bulky nature —much surface area is available." In the picture the pug mill (upper left) feeds sewage sludge to the rotary dryer at the Broadway sewage dis-posal plant at Corpus Christi, Texas. The screw conveyor going to the pug mill brings recycled dried product to mix with the wet feed which is de-livered to the pug mill on a belt con-veyor. Secure details on the system by checking No. 6614 on the coupon and mailing it to Croplife.

TAKES NEW POSITION

YAZOO CITY, MISS.—Dr. W. B. Andrews has resigned his position as agronomist at Mississippi State Col-lege to become technical sales direc-tor with the Mississippi Chemical Corp. and Coastal Chemical Corp., Yazoo City, Miss. Dr. Andrews has been associated with the Mississippi State College and the Mississippi agricultural experiment station since his graduation from Mississippi State College with a master's degree in 1931 except for two years of graduate study at Michigan State College when he received his doctor's degree.



Q. *is all the plant food available?*

A. All of the plant food in AMMO-PHOS is available to the growing plant—quick-acting, non-leaching nitrogen . . . highly active phosphorus and potash . . . analysis available for every crop and soil condition.

Q. *is all the plant food content uniform?*

A. AMMO-PHOS is chemically compounded. Each pellet has a uniform content of the major plant foods . . . the same guaranteed analysis. There's no spotty feeding with AMMO-PHOS.

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A. All of the plant food in each pellet of AMMO-PHOS is completely soluble in water, making AMMO-PHOS more readily available to growing plants.

Q. *is it easy to store and apply?*

A. AMMO-PHOS will not cake or lump when placed in dry storage. It provides easier, more even distribution in the field with pellets that are always dry, dust-free, and free-flowing.

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PLANT FOOD DIVISION • LITTLE ROCK, ARKANSAS

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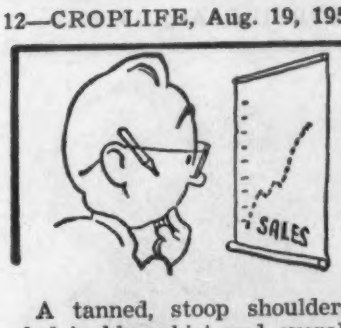

Doing Business With

Oscar & Pat

A tanned, stoop shouldered man clad in blue shirt and overalls came into the farm store of Schoenfeld & McGillicuddy and ambled up to the railed-in enclosure where Oscar Schoenfeld and Pat McGillicuddy were working. Oscar was figuring discounts, and Pat was making a phone call.

With a woebegone expression the elderly man said, "Oscar, I want some dust for my squash."

Oscar frowned, looked up from his discounts, saw that Pat was phoning, and turned to look at Jim Weatherby. Without a word, he got up from his desk and came out the swinging gate of the office enclosure and started toward an island heaped with insecticides.

"I see you don't look so well today," Weatherby offered. "I don't either. I'm sick."

Oscar grunted. "What's the matter?" He reached for a can of rotenone dust. Why did that Pat have to telephone all the time? Why didn't he come and wait on customers like he should instead of blabbing to others all about the baseball games, the crops and chamber of commerce doings.

"I ain't happy no more," complained Weatherby sadly. "I never should have sold my house and farm and moved into town to live with my daughter and her husband. But after Martha died, I was so lonely out on the farm. I thought it would be different in town, but it ain't."

"Ach, one must live somewhere," Oscar said, handing the dust to the farmer. "That will be 89¢."

The farmer dug out a dollar bill from the folds of a clasp pocket book and handed the money to Oscar.

"Yah," he said disconsolately, "things ain't like they used to be. Now, if my son-in-law heard me say that he would get mad. He says that a feller should never look back—he should always look ahead. But, Oscar, it just goes to show you how dumb some of these young fellers are. What has a man of 74 got to look forward to? It's a lot more fun to look back, ain't it? My son-in-law will find that out some day."

Oscar impassively rang up the sale and handed the retired farmer his 11¢.

"By golly, I can't see why my daughter married that feller. He thinks he's always right. He says all the answers are in the books. That just shows you how far gone he is."

"I got relatives, and I never see them if I don't have to," Oscar said conclusively. "I save my money and I don't have to live with anyone. Ach, if I don't see my relatives for a year, I don't worry."

"I'm livin' with my in-laws 'cause I ain't got money," Weatherby said defensively. "I still got some nickels left, although I admit I don't pinch the pennies like you do."

Oscar looked up puzzled. "Pinch the pennies!" he exclaimed. "Huh, I don't do that. Ach, I save them!" And he went back to figuring discounts, indicating that the transaction, as well as the conversation, was terminated.

"I could live alone down at the hotel," Jim Weatherby mused, "but, dang it, it's so blamed lonesome. Nobody cares what time you go to bed, what time you get up, what you eat—nobody cares a darn thing. When Martha was alive—" He broke off reminiscing.

Pat had finished his phone conversation. "But you've got your garden, Jim," he said. "I hear you're just about the best gardener in the town. You fertilize, you mulch, you spray and I've heard your tomatoes and your white potatoes are really something."

The old man brightened a little. "Yeah, I sure like to garden. I allus did, even when I had the big farm. Martha and I allus had the best dang garden in the area. If I didn't have that garden down at my daughter's place, I'd just go plain nuts. Now that Harold's mother is living with us, it's worse yet. Between her and Harold I don't get a minute's peace."

"We've all got our troubles," Pat offered.

"Troubles," Weatherby said. "You should have mine. I like to smoke my pipe, you know that. Well, when I went to live with my daughter, Harold said I couldn't smoke in the house because he didn't like the smell. It disturbed him when he was studyin'."

Pat and Jim exchanged grins. They understood.

"So I goes to the basement when I want to smoke and sits next to the furnace," went on Weatherby. "Sometimes I even blew the smoke into the little holes in the front door furnace slot. You see, I was tryin' to cooperate, Pat."

He sighed. "But Harold said the smoke got up into the house. Then when I wanted to go and smoke I had to go into the garage. That was pretty cold in February and March, I tell you, me standin' out there with two sweaters on and an overcoat and puffin' on my pipe."

"I can imagine," grinned Pat. Oscar looked absolutely bored, even though he was figuring discounts.

"Then Harold said the smoke got into the car upholstery and I couldn't smoke in the garage any more."

Pat whistled.

"So," went on Weatherby disconsolately, "I had to go outdoors. And I was lucky it was spring, Pat. What am I gonna do next winter? I can't stand out in the garden like an Indian smokin' my pipe with two feet of snow on the ground, and me freezin' to death. Besides folks will think I'm crazy and then Harold will want to send me to some sanitarium or somethin'. I know that guy. What have I got to look forward to, Pat? I ask yuh that."

Pat grinned again. "Well, at least you can smoke all summer in the garden, Jim."

"That's where you're wrong," came back Jim Weatherby sadly. "The garden is on the south side of the house and that is where there's a screened porch. Harold's mother sits there most of the day and she claims that the south wind blows pipe smoke into the porch and makes her cough, she's got such delicate lungs she says."

"So?"

Jim Weatherby shrugged. "So the only place I can smoke is when I walk the streets of this town. Pat, I've been up and down every danged street in this burg, until I could walk 'em blindfolded. And that ain't all, Pat, my daughter is saying I oughta quit smokin' altogether, because when my clothes hang in the bedroom she can smell the smoke smell all over the house, especially when the weather is damp."

Pat looked thoughtful. "Jim," he said, "can you drive a light truck?"

"Huh," replied the farmer. "After I've been handlin' tractors for 25 years, you ask me that?"

"Would you like to work a couple of days a week, at least for the rest of the summer?"

Jim Weatherby looked interested. "Who would hire me?" he asked. "I'm 74. Remember, I ain't got anythin' to look forward to. I ain't full of vim, vigor and vinegar. But I can outsweat a lot of these soft young fellows in a garden, I tell you."

Pat smiled. "I know you can. We need someone to sell fertilizer for fall application, Jim. You know farmin' and you believe in heavy application. We'd furnish you the truck and gas two days a week and you could sell on commission. Wanta to try it?"

There was a strange light in Jim Weatherby's eyes. "Holy cow," he said, "what have I got to lose? You furnish the truck and the gas. And I kin smoke my pipe in the truck, can't I?"

Pat nodded. It was evident from Oscar's frown as he bent over his figures that he did not approve of the arrangement at all, but Pat went on.

"Now when you go around on those fertilizer calls, Jim," he said, "be sure to watch out for some of those farm widows. There are a number of them around, and even though you are 74 you are pretty hale and hearty. You could be around another 10 years and some of these widows probably know that."

Jim Weatherby's eyes widened. "Pat, don't you go puttin' ideas into my head at my age." He frowned. "Darn it, you have." He smiled slightly. "Pat, kin I start on that job Monday mornin'? I'm kind of hankerin' for it."

Pat nodded. "You sure can. That will give you Friday and Saturday to get that garden in tip top shape. And don't forget to dust those squash."

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VEGETABLE GROWERS MEET

NEW ORLEANS — The Vegetable Growers Association of America will hold their annual convention here December 8 through 12, it was announced this week. It will be the first time the vegetable industry held the meeting in New Orleans.

PROFITABLE TEAM

(Continued from page 9)

nitrogen into the ground from 8 to 10 in.

"Legreid Farm Service is also the distributor of complete analysis liquid fertilizers, both the starter and for plow down, also for hay land, pastures, oats and other crops."

When anhydrous and liquid fertilizer are explained thus, without using highly technical terms, the farmer can understand the fertilizer story, believes Mr. Legreid.

When Mr. Legreid first began to sell anhydrous amomnia, he asked farmers to make check strip tests so that they could see the difference between fertilized and unfertilized rows. Mr. Legreid reports that very few of his regular customers now leave such check strips. In other words, they have been shown that anhydrous and also mixed fertilizer increase corn yields and they no longer require check strips. They want all the crop fertilized, so a larger yield can be attained.

"I think that this is a tribute to what anhydrous ammonia and also mixed liquid fertilizer can do," says Mr. Legreid. "New customers, however, occasionally want to be shown and ask for check strips."

Although both types of fertilizer have been accepted quite well by farmers in the Mason City area, there is still need for educational work," declares Mr. Legreid. Each winter he usually holds a day meeting where slides, talks and movies round out a day's educational confab. From 125 to 150 farmers attend such a gathering, showing that they like to learn as much as possible about latest methods in fertilizing with anhydrous and also mixed fertilizers.

To date, Mr. Legreid has had little difficulty collecting for sales. From the time he went into business, he emphasized that he expected cash for the job right after it was finished. Practically 99% of his sales are still made on this basis, he reports, and paid for on time.

"They have got to be," he says, "with some sales running up to and over $1,000, I just can't carry anybody too long, and most farmers realize that.

Mr. Legreid uses two types of order forms. One is for the ordering of anhydrous ammonia and application by the customer. The other order form is for the ordering of mixed liquid fertilizer.

"Despite the fact that we are generally busy most months of the year, except December, January and part of February, we believe in advertising continuously," says Mr. Legreid. "We usually advertise in the daily newspaper—several ads a month—and also in the Cerro Gordo Farmer, a weekly magazine which covers all farms in Cerro Gordo County. In this way we reach all farmers, we think, regular customers and newcomers."

"Drop me off a truck load of fertilizer samples and I'll see which I like best."

What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

The Interstate Commerce Commission, in a decision on Aug. 6, granted the U.S. railroads permission to increase their tariffs on shipments of fertilizers. Eastern lines were to advance rates 14%; Western lines 12% and Southern lines 9%. The fertilizer industry took a dim view of the situation, particularly since the door remained open for still further increases later.

An invitation to consolidate with the National Plant Food Institute was extended to the Middle West Soil Improvement Committee. John A. Miller, NPFI president, made the proposal. If accepted by MWSIC, the Chicago office would become the middle western branch of the Plant Food Institute. Both the MWSIC board of directors and its membership must approve before the arrangement is final.

Soil bank plans for 1958 appeared to Washington observers as being of little special benefit to the fertilizer and pesticide industries. Its provisions were expected to present approximately the same situation as obtained this year.

The U.S. Department of Agriculture reported successful application of a systemic insecticide, Dow ET-57, for control of the nasal botfly of sheep. Application of the product has resulted in excellent control in most cases, USDA reported.

New officers and two new directors were named by the Miller Publishing Co., publisher of Croplife. Martin E. Newell, Kansas City, Mo. became chairman of the board of directors; Milton B. Kihlstrum, president; Wilfred E. Lingren, executive vice president; Don Rogers, Chicago, and Paul L. Dittemore, New York, vice presidents; Donald Neth, managing editor of Croplife, secretary and member of the board of directors; and George L. Gates, editor of Feedstuffs, member of the board.

Stauffer Chemical Co. announced that it will build a 400-ton-a-day capacity sulfuric acid regeneration plant at Hammond, Ind. Construction was expected to begin in August.

Potash deliveries for the 1956-57 year increased 8%, according to figures released by the American Potash Institute, Washington, D.C. Eight leading American potash producers and the importers delivered 2,390,584 tons in the past fiscal year.

Spencer Chemical Co. announced plans to construct a new urea plant at Henderson, Ky. The new facility will produce approximately 100 tons a day when it comes on stream in the summer of 1958.

The Great Plains Agricultural Ammonia Conference was held at Manhattan, Kansas July 11-12, with speakers discussing application methods, reporting on yield and profit increases by farmers, and outlining good business methods.

Production of anhydrous ammonia, ammonium nitrate, urea, potash and phosphoric acid increased in the U.S. during the period of January-March, 1957, as compared to the same period of 1956, the U.S. Department of Commerce reported. Some other commodities, including BHC, DDT, ammonium sulfate, and superphosphate dropped a slight bit in the first quarter of this year.

A fertilizer industry conference held at Cornell University, Ithaca, N.Y., deliberated upon the problem of how to get farmers to act on information given them by various sources. Speakers included Dr. W. H. Garman, NPFI, Washington, D.C.; Dr. Charles E. Palm, director of the New York agricultural experiment station; and Dr. Richard Bradfield, Cornell agronomist.

Three localities and 32 individual premises in Missouri, North Carolina, and Tennessee were placed under USDA quarantine regulations because of the presence in these areas of soybean cyst nematode.

That fertilizer trials on dry range land in California "Exceed fondest hopes," was the message brought by Sidney H. Bierly, general manager of the California Fertilizer Assn. in an article describing pasture and range land development in that state. He told of highly successful results from added fertilization and presented data from a number of California experts on pasture and range use.

The output of pesticides and other organic chemicals totaled 570 million pounds, which was about 13% over the production figure for 1955, the U.S. Tariff Commission reported. DDT output was put at 138 million pounds.

Production of superphosphate in May, 1957, decreased from the May, 1956 output, according to the U.S. Bureau of the Census. Production for 1957 was 211,642 tons; for 1956, 223,590 tons.

The California Farm Bureau Federation decided that construction of a plant for the manufacture of anhydrous ammonia, owned and controlled by farmers and farmer organizations, "is financially feasible provided its capacity is not less than 150 tons of liquid fertilizer a day." A committee was to continue to study the situation with an eye to laying further plans for erecting such a plant.

That the full potential of fertilization of forest land can be achieved only through careful research was the essence of talks made at the recent meeting of the Pacific Northwest Plant Food Assn. at Portland, Ore. The height, diameter, and value of trees are enhanced by the application of fertilizers, it was indicated, and the time required for maturity is shortened significantly.

Production of urea got under way at the Vicksburg, Miss. plant of Spencer Chemical Co., the firm announced. Output of the plant will be some 10,000 tons a year.

Canadian sales of pest control chemicals increased 8% in 1956 as compared to 1955, the Dominion Bureau of Statistics reported. Sales in 1956 amounted to $24,685,259, the report said.

Herbert H. Schwardt was appointed head of Cornell University's department of entomolgy, to succeed Charles E. Palm who became director of the New York Agricultural Experiment Station.

ADVERTISEMENT

The Bulletin Board

No. 28 in a series from the Spencer Chemical Magazine, "Today's Fertilizer Dealer"

The Spencer Question Box

Edited by

Proctor Gull

Chief Agronomist, **Spencer Chemical Co.**

"The Question Box" is one of the most popular features of TFD, Spencer Chemical Company's magazine for fertilizer dealers. Questions submitted by dealers are answered by Proctor Gull, head of Spencer's 7-man field agronomy team. Here are a few timely questions and answers from recent issues of TFD.

1. QUESTION: What effect does burning of crop residues have on soil fertility? — Kenneth Green, Patton, Mo.

ANSWER: Burning such residues as small grain and soybean straw, grass, grass sods and cornstalks is a very poor practice, because it causes rapid decomposition of this important source of organic matter for the soil. And organic matter is an important part of good soil fertility.

Crop residues are high in carbon, which serves as food for soil organisms. If this carbon source is destroyed, the bacteria in the soil decrease, and the soil becomes "lifeless" and of poor tilth. In addition to carbon, the other important food in the diet of the soil bacteria is nitrogen. For optimum growth these bacteria need about 11 parts of carbon to 1 part nitrogen.

It is true that when a lot of straw, for example, is plowed under for corn that is not adequately fertilized, the yield is typically poor. This experience, I believe, has convinced some that burning would help such a situation.

Actually what happens is that the soil bacteria have a healthy supply of carbon to digest when you plow down residues. To assimilate all this carbon, they feed on (tie up) most of the nitrogen in the soil, too, in an effort to balance their diet.

The solution is not to remove the carbon by burning but to add more nitrogen. This will speed up the decomposition of organic matter, add to a healthy soil microorganism population, and therefore, aid in the fertility build-up of the soil.

2. QUESTION: What is the difference in feeding value between fertilized and unfertilized corn?—Donald W. Potter, Pengilly Farm Service, New Ulm, Minn.

ANSWER: Research scientists at various colleges have found that the protein content of corn can be raised by a good fertility program. This is especially true where the starting fertility level is low. Under such conditions, the protein content of the corn might be raised as much as 3%.

On some sandy soils in Minnesota where 120 pounds of actual nitrogen was applied per acre, the corn yield jumped from 30 to 104 bushels per acre, and the protein content of the grain went up 2%. Increasing the amount of nitrogen to 180 pounds increased the protein content another per cent. This protein increase means substantially greater feeding value over that of unfertilized corn.

3. QUESTION: What fertilizer application is best for bromegrass pasture planted ten years ago?—Dean Grain Company, Agra, Kans.

ANSWER: Bromegrass gives good response to nitrogen fertilizers. If this particular pasture has had no fertilizer on it, the chances are that it is in a sodbound condition.

The only treatment for this is nitrogen. Apply at least 200 pounds of ammonium nitrate early in the spring or in the fall. If lack of moisture is not a real serious problem, this amount should be applied annually. Then every third year, apply 100 pounds of a mixed fertilizer such as 15-15-0, 16-20-0, 10-20-0 or others.

We were speaking above of improved pastures. Native pastures are a different story. Research results during the dry years, 1952 through 1956, indicated that fertilizer did not give the returns which we like to see. However, in 1951, 50 pounds of nitrogen per acre did pay for itself. On the average, it is somewhat doubtful whether fertilizer on native pastures is a profitable venture.

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FARM SERVICE DATA

Extension Station Reports

In an experiment conducted by the University of Kentucky, the application of about $5.40 worth of phosphate fertilizer on Sudan grass produced an extra 3,500 lb. of forage, according to agronomist E. C. Doll of the Kentucky agricultural experiment station.

In the Kentucky experiment, land to which no phosphorus was added averaged only 1,400 lb. of dry matter per acre. When 150 lb. of 20% superphosphate were added, production per acre went up to 3,800 lb., and when 450 lb. of superphosphate were applied, production soared to 4,900 lb.

★

American farms are about 87½ acres larger today than they were 20 years ago, reports the Middle West Soil Improvement Committee.

"Back in 1935, farms averaged 154.8 acres in size," says the committee. "Today they average 242.2 acres.

"This increase in size shows the trend to greater efficiency in farming.

"Larger farms can often use labor and equipment more fully than can smaller ones, according to Ohio agricultural economists. Operators of larger farms can cut costs of production and increase their net profits per acre on corn, small grains, meat and dairy products."

However, farmers with smaller farms can still compete successfully with larger operators, says the committee. By using fertilizer they can increase their returns for each acre, each hour and each dollar used in crop production.

"By farming each acre more efficiently," says the committee, "farmers make each acre do a bigger crop producing job. This cuts the cost per bushel, per hour and per acre. This lower cost gives a greater margin of profits and more 'take-home' pay for the farmer."

The committee quotes R. J. Tomkins, Ohio State University agricultural economist to the effect that "farmers can increase their net income by the proper use of fertilizer, improved and adapted varieties of seed, labor-saving practices, weed and insect control."

★

Plants are having quite a time in this "too much" and "too little" rainfall situation in Oklahoma.

Trees are beginning to show the same iron chlorotic condition they experienced in recent years during the severe drouth, reports Dr. Robert Ealy, Oklahoma A&M University horticulturist.

He says this has revealed there is an optimum moisture range at which trees absorb and utilize iron. The plants affected turn pale green and yellow, which leads to reduced vigor, slow growth and eventual death of the plant. Yellowing is particularly noted in leaves at tips of the branches.

"Applying chelated iron in a shallow trench at the spread of the branches is the most practical known treatment," he says. "The chelated iron should be watered into the soil."

★

Canada thistles can be killed with properly timed herbicide applications, reports Earl Spurrier, University of Illinois agronomist. With repeated treatments, 2,4-D will kill most strains of this serious weed pest. But some strains are resistant to this chemical and will survive.

A promising new herbicide, ATA or amino triazole, appears to completely control Canada thistle, Mr. Spurrier points out. But it should not be used where a crop is being grown for food or feed. The farmer should wait until the crop is harvested.

Treating with 2,4-D is easy and the cost is relatively low. If there is no crop to be damaged, ½ to 1 lb. of 2,4-D acid per acre should be used. Spray should be used when the thistles start to bud and again as they grow back during the summer. Three treatments may be required in some years. It may take two or three years for complete kill. Spot treatments can be used if the infestation is spotted and if there is no concern about damaging small areas of the crop.

Thistles can also be sprayed in small grains and corn. Here the application must be lighter, but it will still prevent seed production.

The best use for ATA is for spot treating where there is least danger that other plants will come into contact with the chemical. Spraying should be done in the spring any time after the thistles are 6 in. to 18 in. tall, or at the pre-bud stage. Late summer and fall treatments on maturing plants are less effective. Eight pounds in 30 to 40 gal. of water can be used. Treated plants should not be disturbed for at least 10 days to 2 weeks.

Although amino triazole is not poisonous, it does kill all plants that come into contact with it. For this reason Mr. Spurrier believes that it is better to use 2,4-D on thistles in pastures. This chemical will kill the thistle tops and let the pasture growth continue. Two or three years of 2,4-D treatments will also cost less than one ATA treatment. But where pastures have serious spots of Canada thistle, they can be fenced off and ATA used.

★

Corn yields were increased nearly 30 bu. per acre annually, oats 18 bu. and hay production was boosted more than two tons per acre when lime and fertilizer were teamed up in 12-year Wisconsin tests.

When the tests were begun at Owen, Wis., in 1945, lime was applied at the rate of 4½ tons per acre. Then 1,500 lb. per acre of 0-20-20 fertilizer was added. At planting time, corn received 150 lb. of 3-12-12 in the row; oats got 300 lb. of 0-20-20.

"L. E. Engelbert, University of Wisconsin soils specialist, reports that corn yields on the limed and fertilized fields increased a total of 358 bu. per acre for the 12-year period, or an average of 29.8 bu. per acre annually. Per acre oat yields increased 216 bu., 18 bu. per year; and hay 25.1 tons, or 2.1 tons per acre annually."

On fields getting lime alone, corn yields increased 13.7 bu. per acre annually, or a total of 165 bu. for the 12-year period, or a total of 61 bu.; and hay yields went up about one-half ton per acre, or 6.6 tons.

Where fertilizer alone was used, corn yields increased 21.2 bu. per acre annually; oats yields increased 17 bu. and hay yields were boosted 1.2 tons per acre.

FERTILIZER INVESTIGATION

HALFWAY, TEXAS — The new High Plains experiment station is starting out with one of the most discussed farming problems in this area. It will try to find out the best kinds and proper amounts of fertilizer needed to increase cotton production.

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FARM STORE LEASE AGREEMENTS

Look before leasing! A dealer can avoid profit pitfalls by checking these seven questions before signing a new lease agreement

By Paul Lockwood

Look before leasing is a maxim of successful farm store management. A lease that was good last year may be a profit-robber this year. Or, a lease that looks good this year may be a millstone around a dealer's neck next year.

Here are seven important questions to be considered before signing a new lease agreement:

1. **Have all types of lease agreements been carefully considered?**

With a different type of lease agreement, the dealer may find himself in a better position for the expansion of his retail business. Or, if volume changes, a different type of lease may provide profit insurance.

Here are the most popular types of lease agreements for dealers:

Flat Rental: This lease sets up a definite monthly rental figure that remains the same throughout the term of the lease. It works to the dealer's advantage during a period of expanding sales volume, but may be a heavy expense factor if volume declines for any reason.

Graduated Lease: As a general rule, this type of lease is only used by new farm dealers in a new location. It sets up a schedule of increasing the rent each year during the term of the lease. It is lower than normal at the start and higher than normal at the end of the period. When the business is growing, it may provide some early financial help and keep profits in line with income.

Re-appraisal Lease: This is the least popular of all types of lease agreements. It establishes a flat rate for a part of the lease term. Then, an appraiser for the landlord and your appraiser get together to determine a fair rental figure for the balance of the term. During times of economic change it may be advantageous for the dealer to have a re-appraisal lease agreement.

Percentage Lease: With this type of a lease agreement, the dealer pays a certain percentage of his income or profit. Many modern leases are of this type and it makes it possible for the dealer to plan his expenses better. There are several types of percentage leases and pitfalls to avoid covered in the next question about leases.

2. **Have the various types of percentage leases been carefully checked?**

Flat Percentage: A flat percentage lease establishes a figure that is used during the term of the lease. For instance, at 2% of income, the dealer will pay this amount every month regardless of how much his sales volume for each month is.

Guaranteed Plus Percentage: This establishes a base rental figure plus a percentage of income. For instance, the rent may be 2% of sales with a guarantee of $200 a month. With an income of $8,000 a month, the rent would be the guarantee of $200 instead of 2% of sales or $160. With an income of $12,000, the rent would be $240 for the month.

Percentage of Profit: This is a rare type of percentage lease, but some landlords demand it. This type of lease must be carefully phrased to provide protection. It may make the landlord a partner in the business under some laws.

On all types of percentage lease agreements, adequate records must be maintained by the retail dealer. Usually these records are audited by a representative of the landlord. Dealers should be sure that the percentage figure is based on their net sales or on net profits rather than on the gross.

3. **Does the lease contain an option to buy the property at a fair figure on today's market?**

Not all landlords are agreeable to such a provision in the lease. However, the dealer will enjoy certain benefits if he can get it included. Someone may want to take over the business. The dealer refuses to sell. The first party may buy the building, take over the lease, and then refuse to renew the lease. Then, he buys the business for a fraction of its real value.

There is always the possibility of a long-term capital gain through purchase and resale of the property. In times of rising real estate values, it may be to the dealer's advantage to exercise the option to buy. Then, he can resell the property and take a long-term lease at a higher rental figure. Thus, he retains his location and makes a low-tax profit on the transaction.

4. **Does the lease agreement have an option for renewal at a fair figure?**

It is usually not too difficult to get a renewal clause included in a lease agreement. The trouble usually arises over the figure to be used for the lease renewal.

Forecasting what future rentals will be is difficult. For instance, if the renewal figure is at a fair figure today, it may be too high at the expiration of the lease. Then, the landlord may try to get the option figure and not renew at the lower figure. Moving and the business interruption may be expensive when it is impossible to reach a satisfactory agreement with the landlord.

5. **Does the lease have definite provisions for handling repairs and improvements of the property?**

Short-term lease agreements do not need to place too much emphasis on this problem. During the re-negotiation, any repairs or major improvements to the property can be discussed with the landlord.

On long-term lease agreements, however, it is important that definite provisions be made for repairs and improvements. Some landlords are lax in making repairs to their buildings. Roofs, sidewalks, parking space, for instance, that need repairs can cause considerable loss and possible civil suits.

Improvements may be important for the future success of a business. Modern fronts, for instance, may be needed to give customers the idea that the business is right up-to-date. Provisions should be made in the lease for the landlord to make improvements or to permit the dealer to change the building to keep it looking modern.

6. **Does the lease agreement have a provision for sub-leasing or transferring the lease?**

When the lease is signed, the dealer may not have any idea about selling his business. Yet, in a year or two something may happen that will make the sale of the business necessary.

Unless there is a provision for sub-leasing the building, the sale of the business may fall through. To be best the sub-leasing or transfer provisions should not be restricted to the type of business or to the qualifications of the new tenant.

7. **Does the lease agreement have definite provisions for the termination of the lease?**

The most satisfactory lease agreements have a clause handling the termination of the lease. A figure should be set that will be paid by the dealer when he terminates his lease. This will save him having to pay the full amount of the rent for the unused time of the lease.

Provisions should be made for handling the lease if the building is destroyed by fire, flood, earthquake, or civil commotion. Another problem that might develop during the term of a lease is the right of eminent domain. When any branch of the government takes over the building for any reason, the dealer should be compensated for his loss of business and income in some way.

One way to avoid many problems with lease agreement is to have a lawyer check it against what the dealer wants. The legal fee may be the best insurance he can buy . . . it is the safe way to look before leasing.

SCHOLARSHIP WINNER

PORTLAND, ORE.—Norval Johanson, a junior at Washington State College, has been awarded the Pacific Northwest Plant Food Assn. scholarship for the year 1957-58. This scholarship, to stimulate interest in agronomic work, is granted annually by the association to the three states of the Northwest. Mr. Johanson had a grade point average this last semester of 3.5. He has lived on a small farm near Kent, Wash., for the last 16 years except when in school. During the summer he has been working at the Western Washington Experiment Station assisting in agronomic research work particularly on pastures and pasture management and has helped conduct fertility experiments both in grains and forage crops.

HUMOR IN ADS—The F. E. C. Fertilizer Co., Homestead, Fla., has been running a series of advertisements in a Dade County newspaper in which cartoons are featured. Above is shown one of the cartoons which has appeared in the series. Greener is the trade name of a lawn plant food fertilizer. Below the cartoon appears the firm's signature, including the address and phone number.

Corn Earworm Control Method Discovered

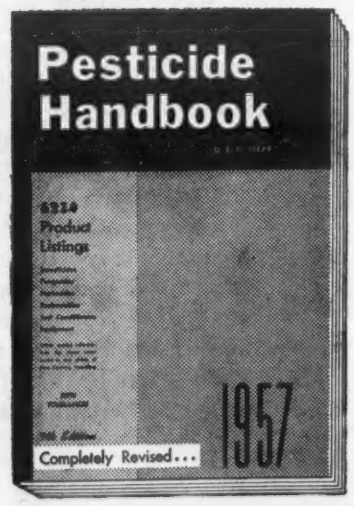
MANHATTAN, KANSAS—Discovery that phosdrin is effective in the control of the corn earworm in grain sorghum has caused scientists at Kansas State College here to herald it as a "major break-through" in the control of this pest. Experiments conducted at the Kansas experiment station showed phosdrin giving a performance record of from 95 to 100%.

The effectiveness of this systemic insecticide against corn earworm was discovered by Chris C. Burkhardt, an entomologist at the station. His experiments were made by using both aerial and ground sprayers, and results were confirmed in tests conducted by L. J. DePew, entomologist at the Garden City branch experiment station.

Recommended dosages of phosdrin will be only one-third to one-half pound an acre, and an interval of two weeks between the latest spray date and harvest time is suggested, Mr. Burkhardt says.

MAKES PASTURE LANDING

LOUISVILLE, KY.—After becoming lost on a cross-country flight, Dale Benford, 38, Saginaw, Mich. crop duster, crash-landed his light plane in a pasture near here July 27 and escaped unhurt.



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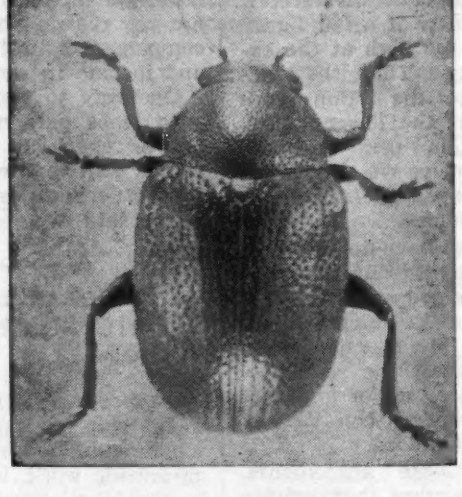
about the editor —

Dr. Donald E. H. Frear, Editor of PESTICIDE HANDBOOK 1957, is one of the leading authorities on the chemistry of pesticides. He is the author of "Chemistry of Insecticides and Fungicides," the first book dealing with this subject published in the United States. In addition, he has written several other books, including "Chemistry of Insecticides, Fungicides and Herbicides." Dr. Frear is Professor of Agricultural and Biological Chemistry at the Pennsylvania State College.

BUG OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board

Rose Leaf Beetle



How to Identify

The rose leaf beetle is a small, oval-shaped metallic-green beetle, about ⅛ in. long. They are most numerous in suburban gardens near uncultivated fields. They usually appear late in May or early in June.

Habits of Rose Leaf Beetle

Actually, little is known about this insect, but it is believed that the larvae live in the soil and feed on the roots of various plants beneath the surface. The beetle's scientific name is Nodonota puncticollis (Say).

Damage Done by Insect

In addition to feeding on roots in the larval stage, the rose leaf beetle, as an adult, feeds on a number of flowers in addition to roses. It attacks iris and peonies and also on the tender shoots, flowers and foliage of crops such as blackberries, raspberries, strawberries, clover, peaches, pears and plums. Frequently the beetles swarm over flowers and in a very short time riddle them with shot-like holes, thus retarding growth of the plants and making them unfit either for marketing or for esthetic enjoyment.

Control of Beetle

According to literature on the subject, no satisfactory control for the rose leaf beetle is known. The difficulty lies in actually reaching the bugs with the dust or spray. Many of the pests are working within the buds or flowers and ordinary means of application of insecticide frequently fail to contact the culprits. Some of the literature advises jarring the bugs into a pail of water covered with a film of oil, or by picking the beetle-infested flowers and dropping them into the container. Early morning or at dusk is described as being the best times for such operations.

Illustration of rose leaf beetle furnished Croplife through courtesy of U.S. Department of Agriculture, Washington, D.C.

DROUTH

(Continued from page 1)

te subsidy," David A. Clarke, executive secretary of the Connecticut rm Bureau, said. He said the bu- u favors making surplus federal in stocks available to farmers at uced prices. Gov. Ribicoff said he d no comment, and terming Presint Eisenhower's refusal to declare nnecticut a disaster area as 'fuzzy,' repeated his request for federal .

A downpour Aug. 4, dropped nearly o inches of rain over most of Cape d, but in the rest of drouth strick- Massachusetts only light widely ttered showers were reported. The avy rain belt on the Cape extended m Orleans through Wareham. It s the heaviest single day's rainfall nce April. The downpour was a on to farmers in that area.

A rain of not more than "a half- ch" in Essex County was useful in at "every little bit helps," Carlton Cartwright, county agent, said. ut, he declared, two or three days of eady rain is still badly needed. The in was of great value to the fruit op, and "may save the vegetables at haven't already gone," the agent id.

"The pastures are just gone," Mr. artwright said.

With 50% of all new seedings lost nd field crops a toast brown instead green because of the drouth, the asture judging contest in Essex ounty has been cancelled.

Dan Hurld, county agent, said the ontest in connection with the New ngland Green Pasture and Forage rogram "is definitely out this sumer." Mr. Hurld reported the drouth tricken Essex County conditions as ollows:

"Dairymen have reported that they re feeding their cattle on full winer feeding which means hay and ilage with no pasture. Cattle are ermitted out in the fields daily to et exercise, but there isn't any feed n the grazing areas. Milk production is below average. Many farms eport heavy losses on their milk heck.

"In addition, the hay supply, carefully stored in the barns for the comng winter, is getting short. The 'second crop' of hay, due in the barns uring July is still uncut. It is doubtful that the light rain of the weekend has helped the drouth situation. At present, the county is over 10 nches short of normal rainfall for he past three months."

TVA HEARING

(Continued from page 1)

mmonium nitrate sales were used for educational programs, and that the remaining 97% went into the wholesale distribution channels where it was admitted that TVA had no control over the end use of the products.

Mr. Culpepper pointed out to the Committee that such operations are manifestly unfair and that a tax-free, Federally-financed agency should not be in a position of competing with private industry which is obliged to pay taxes and give an honest accounting to its stockholders.

Testimony presented by Mr. Riemer showed the Committee that prodution of ammonium nitrate in the U.S. for the crop year ending July 1, 1956, was about 1,115,000 tons, while private industry had a capacity for producing more than this. At the same time, Mr. Riemer pointed out, TVA was distributing about 140,000 tons of ammonium nitrate a year.

EXTENSION VETERAN DIES

MANHATTAN, KANSAS—Luther E. Willoughby, 67, extension crops specialist at Kansas State College died July 30.

Grasshopper Control Project Under Way In Utah County

MT. PLEASANT, UTAH—Airplanes are flying in Sanpete County, Utah, to combat a serious grasshopper epidemic in the Manti-LaSal National Forest. The insects have been found from Spanish Fork Canyon to the Ephraim area, in an area of approximately 25,000 acres.

Wells Thursby, forest ranger, and other forest officers have been working in cooperation with crews of the Plant Pest Control Division, U.S. Department of Agriculture.

In 1955 the epidemic was discovered and the control planned. In 1956 the grasshopper eggs failed to hatch, but lay dormant until the spring of 1957. A survey still not completed shows the hoppers to be further scattered than in 1955.

Mr. Thursby is of the opinion that most infected areas would be cleaned of practically all vegetation by the end of August if control is not effective.

The Manti-LaSal Woolgrowers Assn. and all cattle association members and permittees have paid assessments to help the control program. Private land owners are required to pay two thirds of the spray cost per acre for the private lands infested.

Diamond Closes Nicotine Extraction Plant

CLEVELAND—Diamond Black Leaf Co., Cleveland, plans to close its nicotine extraction plant at Richmond, Va., it has been announced by George V. Dupont, general manager.

Suspension of production operations at the 39-year-old plant, Mr. Dupont said, is "due chiefly to uncertainties presently governing the nicotine and ground stem tobacco market in the eastern United States, a condition resulting from the steady decline of the market in recent years."

The shut-down will not affect the firm's research and development group or its eastern district sales office, both of which are also located at Richmond, he said. Production will stop as soon as the present raw material inventory is depleted.

Diamond Black Leaf, which produces pesticides and other specialized agricultural chemicals, operates other production facilities at Louisville, Ky.; Montgomery, Ala.; and Des Moines, Iowa.

INSECT APPEARS

NAPA, CAL.—The walnut husk fly has appeared in Napa County for the first time this summer, and helicopters have been brought to the rescue to spray chemicals over the many groves. Officials of the California Department of Agriculture and the Napa County agricultural commissioner are laying protective chemical screens in an all-out attack program.

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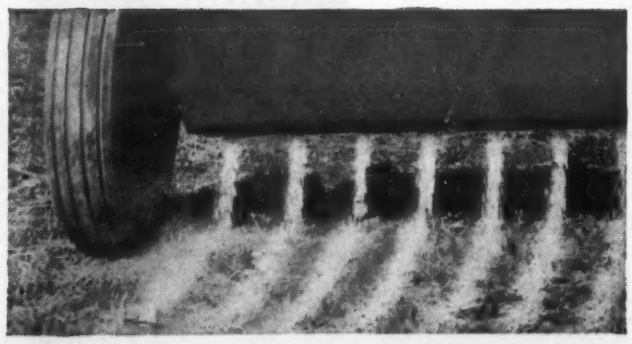

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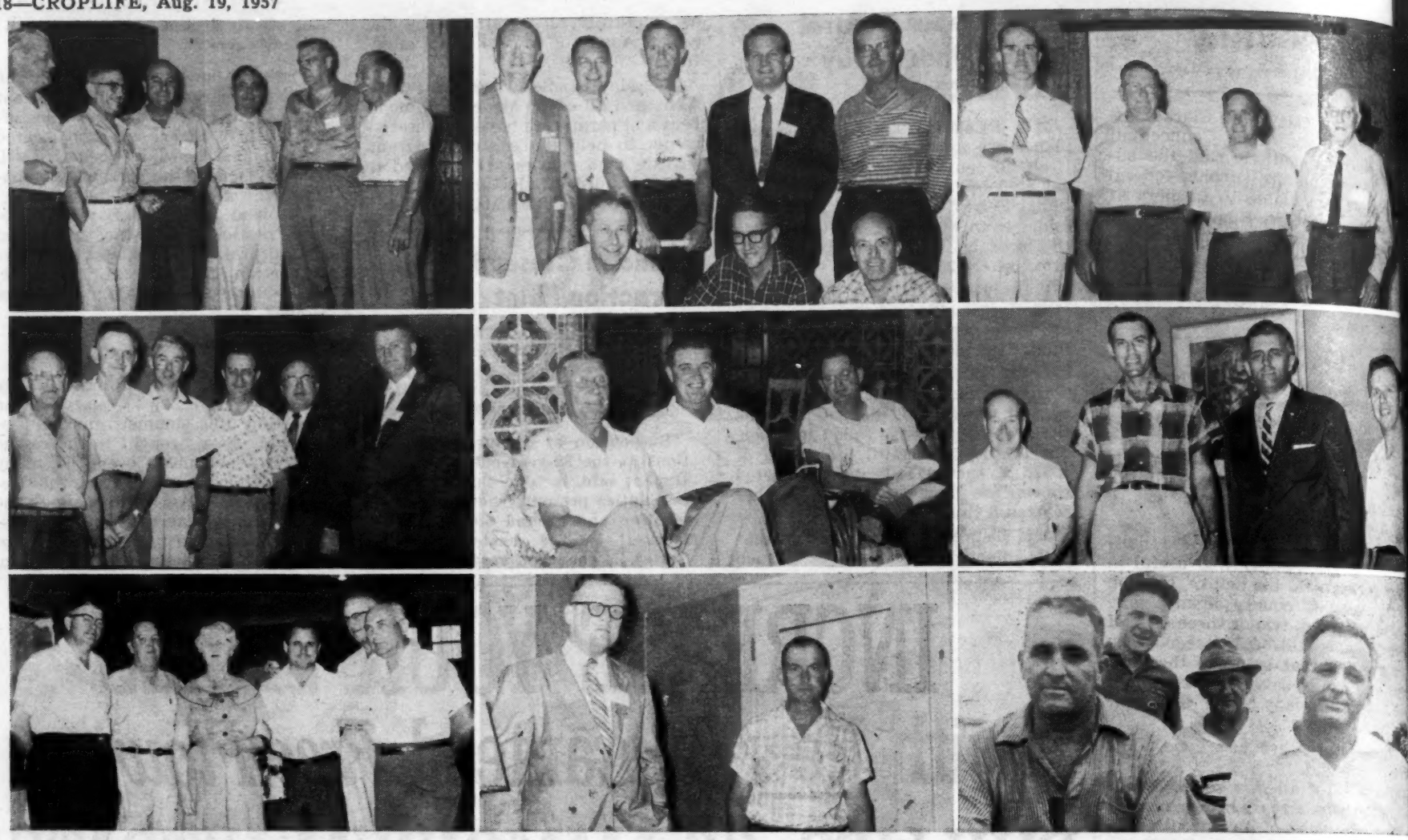
TAMPA, FLA.—*3737 Neptune St.*
TULSA, OKLA.—*1708 Utica Square*
WICHITA, KAN.—*501 KFH Building*



AT SOUTHWEST FERTILIZER CONFERENCE—The place was the Buccaneer Hotel, Galveston, Texas, and the time July 17-19, when the camera recorded the presence of the following trade people assembled at the Southwest fertilizer gathering. Top row, left to right: Sherman W. Clark, Freeport Sulphur Co., Houston; Lloyd Dhonau, Arkansas Plant Food Co., North Little Rock, Ark.; E. O. Baber, Chilean Nitrate Sales Corp., Little Rock; Gus Ashcraft, Duval Sulphur & Potash Co., Atlanta; Bill Burns, International Minerals & Chemical Corp., Texarkana, Texas; Pete Stultz, Red Star Fertilizer Co., Sulphur Springs, Texas. Second photo: (standing) Stanley Hackett, Dixie Fertilizer Co., Shreveport, La., who was chairman of the opening session of the meeting; Clyde Marshall, Commercial Solvents Corp., New York; William B. Porterfield, National Potash Co., New York; Jerry Clower, Mississippi Chemical Co., Yazoo City, Miss.; Walter Young, Commercial Solvents Corp., Mt. Pleasant, Texas. (Kneeling) John R. Taylor, Jr., Grand River Chemical Division, Deere & Co., Pryor, Okla.; Warner Anthony, Farm Service, Inc., Opelousas, La.; and R. L. Warren, Rohm & Haas Co., Pasadena, Texas. Last photo, top row: Bill Dunklin, Planters Fertilizer & Soybean Co., Pine Bluff, Ark.; Stuart Rozas, James Bachemin and A. L. Gayle, Kelly, Weber & Co., Lake Charles, La. Second row: "Scottie" Pegues, Olin Mathieson Chemical Corp., Houston; Walter Peevy, Louisiana State University, Baton Rouge; Fielding Reed, American Potash Institute, Atlanta; Sinclair McCoy and Len Gopp, International Minerals & Chemical Corp., Chicago; and Frank Reedy, Green & Reedy, Franklinton, La. Center: Albert Kinnard, Nitrogen Division, Allied Chemical & Dye Corp.; Arnold Newman, Longhorn Construction Co., Sulphur Springs, Texas; and Massey McConnell, Commercial Solvents Corp. Right: Jim Cooksey, International Minerals & Chemical Corp., Chicago; James Campbell, Virginia-Carolina Chemical Corp., Shreveport, La.; R. A. Jenkins, Virginia-Carolina Chemical Corp., Memphis; Arthur Long, International Minerals & Chemical Corp., Chicago. Bottom row: Harold Hamby, Chilean Nitrate Sales Corp., Shreveport, La.; Jim Dawson, Fidelity Chemical Co., Houston; Mrs. Dawson; R. M. Cole, Swift & Co., Houston; Joe Marsallis, Chilean Nitrate Sales Corp., Shreveport; and S. B. Tatem, Swift & Co., Houston. Center: Bill Dible, International Minerals & Chemical Corp., and Tom Longnecker, Texas Research Foundation, Plainview, Texas. Last photo: Fred Broadway, National Potash Co., Montgomery, Ala.; Bill Brashear, National Potash Co.; Jimmy Powledge, National Hotel Co.; and Bob Linderman, International Minerals & Chemical Corp., Chicago.

NEW COURSE

MOSCOW, IDAHO—A new option of study, agricultural management, to train young people for management positions in modern farming and farm-related industries, has been announced by J. E. Kraus, dean of the University of Idaho, College of Agriculture. Students will be able to enroll in the agricultural management option for the first time this September. A full four-year course, the new program is in the department of agricultural economics.

Cabbage Worms Show Continuing Resistance

ITHACA, N. Y.—How new materials developed by the insecticide industry are aiding growers of cabbage, cauliflower, and broccoli to meet the threat of increasing resistance of cabbage worms to DDT is reported by entomologists at Cornell's New York State Experiment Station at Geneva, a unit of the State University.

"Since 1951 there has been a progressive decrease in effectiveness of DDT against cabbage worms, especially the cabbage looper," says Dr. F. L. McEwen, station entomologist. "Spray programs which provided almost 100% control in 1950, gave 60% in 1953 and 45% in 1955. While poor application and improper timing might account for some of this, it has become quite clear that the cabbage looper at least is developing resistance to DDT."

Just how an insect develops resistance to a pesticide is not known, but it is probable that widespread use of DDT permitted the survival of only those cabbage worms tolerant to it, explains Dr. McEwen. "These tolerant worms, although rare in 1945, became the ancestors of more than 50% of the cabbage loopers of 1955," he adds.

OREGON APPOINTMENTS

PORTLAND, ORE.—Oregon's governor, Robert D. Holmes, has announced the appointment of Kenneth J. Smouse, Morrow County wheat rancher, to the State Wheat Commission and of Clarence Jackson, Creswell orchardist, to the Oregon State Filbert Commission. Mr. Smouse, 1955 Oregon Wheat Growers League president, succeeds Ralph McEwen, Jr. of Athena. Mr. Jackson, a Lane County filbert grower, replaces Ben F. Dorris, Springfield.

Watershed Management Project Under Way on California Campuses

SAN FRANCISCO—Turning waste lands into range lands and saving rains for use on the plains—these are the double-pronged aims of an extensive project in watershed management now under way on three campuses of the University of California.

Nearly 13 million acres of undeveloped range lands are available in California for potential use in the production of forage for livestock. For the most part, these are now water-consuming brush lands that lie between the lower grassland areas and the higher forested elevations.

Some of the newest techniques for watershed management and their effects on water runoff were reported recently by Robert H. Burgy, irrigation specialist of the university's Davis staff, speaking at the Intersociety Conference on Irrigation and Drainage in San Francisco.

Recent studies, Mr. Burgy said, involved seven major watershed installations, up to 4,000 acres in area, located in the Coast Ranges and the Sierra Nevada. On some of these test areas, the natural vegetation—usually brush—was removed by controlled burning or some other means and replaced by forage grasses. Other test areas were left in their natural state for purposes of comparison.

Runoff measurements showed that in years of light or medium rainfall, runoff and total water yield were markedly increased on watershed slopes where brush had been removed. This increased water yield, ordinarily lost through evaporation and plant transpiration, could be made available through stream control programs for use as irrigation water on downstream croplands. Soil erosion on the test slopes was checked by the grasses that replaced the original vegetative cover.

At times of heavy or prolonged rainfall, the test measurements showed little difference in runoff between the natural and altered watershed slopes, Mr. Burgy said. This indicated that vegetation changes, properly controlled, would not increase the danger of flash flooding. Further studies of this type by the irrigation specialists will involve larger watersheds and will center on detailed testing programs using wider variety of management techniques.

Meanwhile, agronomists on the Davis Campus are developing some new forage grass varieties suitable for use on new range lands under various soil and climatic conditions. And botanists at Davis are trying new methods of brush removal through the use of chemical herbicides.

On the university's Berkeley Campus, forestry specialists are studying the amount of water used by various timber and brush types, the influence of natural vegetation on soils, and the relation of vegetation to the development of springs.

Studies of the Los Angeles Campus include an investigation of the effects of fire on soil properties and other problems related to the brush-burning operation. Specialists there are also making pilot tests of watershed paving materials that may find practical use in critical water-shortage areas.

All of these research projects are part of the University's long-term program to provide more and better knowledge about water's availability and use, a program coordinated and aided by the new Committee on Research in Water Resources headed by Harry R. Wellman, university vice president.

FARM STORE SOLD

CANBY, ORE.—Sale of the Canby Farm Store to William T. Stevens by John Todd, who established the business in 1954, became effective Aug. 1.

Gloomicides

It was the occasion of a testimonial dinner for the town's leading citizen. He told his story in a quiet, shaking voice. "Friends and neighbors," he said, "when I first came here 47 years ago, I came in no limousine. I walked into your town down a muddy dirt road. I had only one suit on my back, one pair of shoes on my feet, and all my earthly possessions were wrapped in a red handkerchief over my shoulder.

"This city has been good to me. Now, 47 years later, I am on the board of directors of your leading bank, I own apartment buildings and office buildings; I am on the board of your leading clubs; I own three concerns with branches in 39 cities. Yes, your town has been good to me and I have walked a long way since I first walked down your muddy dirt road 47 years ago."

After the banquet, an awed youngster approached the great man and asked timidly: "Tell me, sir, what did you have in the red handkerchief over your shoulder when you walked into town 47 years ago?"

"Let me think, son. If I recall rightly, I was carrying about $300,000 in cash and $750,000 in negotiable securities."

★

A woman would not open the door, so the mailman shouted through it, "Got a letter with 3¢ postage due." "Bring it back tomorrow," she hollered back. "I can't come to the door today—it's the canary's day out of the cage."

★

Mike and Ricky are, for the most part, proud of their new bunk beds. But there are certain aspects of this sleeping arrangement that require a bit of adjustment.

Sufficient time had elapsed the other night for the boys to have gone to sleep when their mother thought she heard a disturbance in the boys' room. Looking in, she saw in the half light a little figure half sitting and half dangling over the edge of the top bunk.

"What are you doing?" she called sternly.

"I'm just trying to say my prayers," came the troubled reply.

★

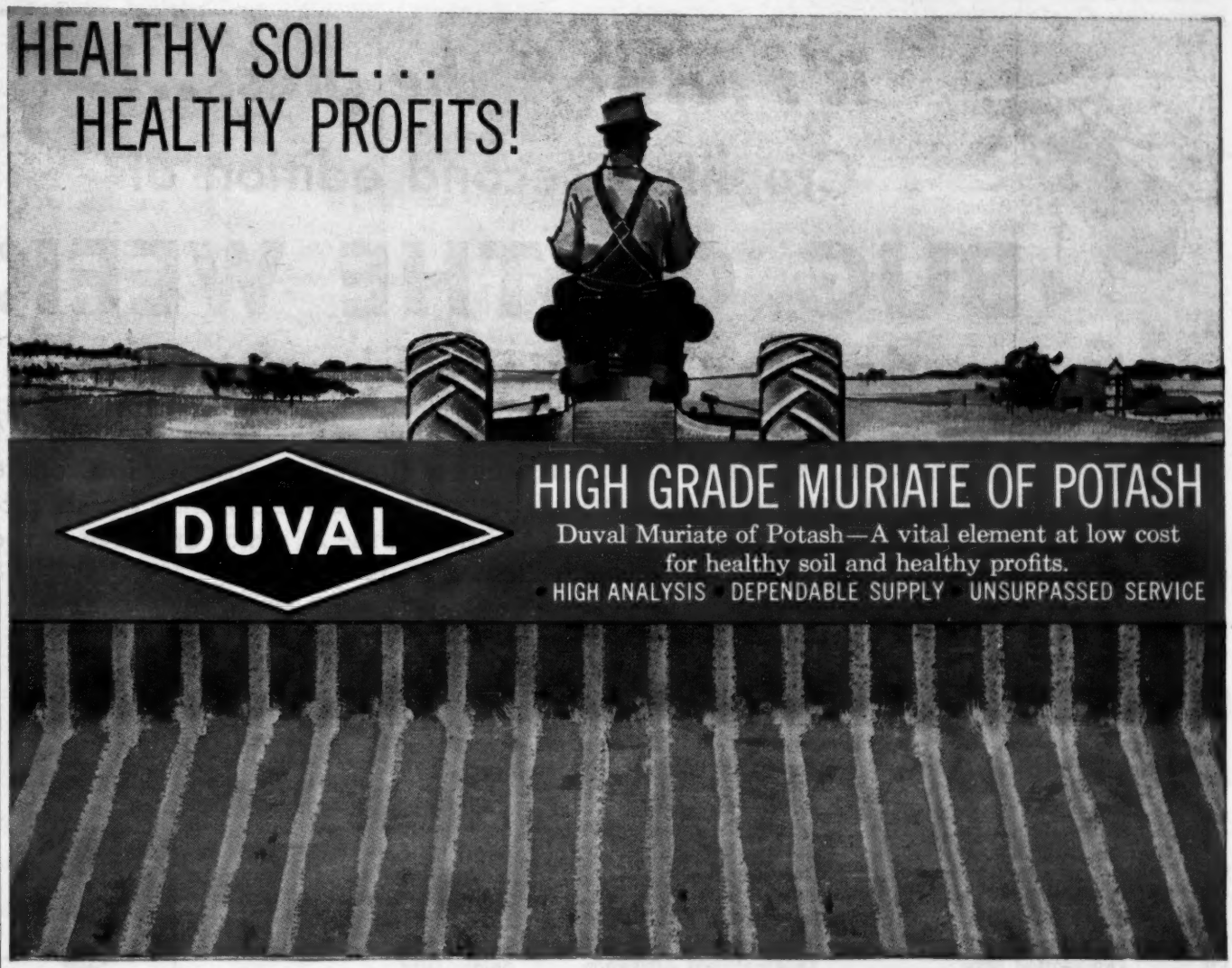
A woman walked into her daughter's home and said hello to the parakeet, who responded with a wolf-whistle.

Pleased at this tribute, she continued to the back of the house and reported what had happened.

Her 5-year-old grandson looked her over thoughtfully and then offered as helpful an explanation as he could muster. "That bird," he confided, "is confused."

★

The easiest way to teach children the value of money is to borrow some from them.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INSECT, PLANT DISEASE NOTES

(Continued from page 5)

worms have damaged lima beans in Baltimore County.

Reports of spider mite infestations continue. Green cloverworms are giving trouble on soybeans in Worcester County. Corn earworm may also be expected on soybeans. A combination spray of DDT plus malathion should control mites and caterpillars on soybeans.—Theo. L. Bissell and Wallace C. Harding, Jr.

Boll Weevils Present Problem in Tennessee

KNOXVILLE, TENN.—There has been a sharp increase in boll weevil build up this week. (Aug. 12) Second generation weevils are emerging at this time and considerable damage is resulting. Several spot infestations were found as far north as Obion County. These infestations indicate that a considerable number of weevils overwintered in some sections of the northern counties.

These counties are not generally infested at this time but some weevils will be migrating in by the middle of the month. Some migration is taking place at this time.

In the southern counties where fields have cut out, considerable injury is being done to all size bolls. This week's average for all the fields found to be infested was 30% and was 27% last week. The average for the heavier infested southern counties was 43% and was 30% last week.

Populations will continue to increase as the remainder of the second generation emerges. Conditions still favor build up all over West Tennessee.

Aphid populations have increased sharply over the area and control is needed in many fields. Weather conditions have been ideal for further buildup.

Bollworms are causing considerable damage to older bolls, with small worms causing damage to young squares.—R. P. Mullett.

Alfalfa Virus Disease Increases in Utah

ROOSEVELT, UTAH—Witches' broom, an alfalfa virus disease, is on the increase in Uintah Basin and has now been found in Millard County, according to Dr. Devere R. McAllister, associate professor of agronomy at Utah State University.

He said that in some fields in the basin 90% of the alfalfa plants were infected last year and that the disease can be found throughout the area.

First seen in Salt Lake County in 1925, witches' broom has become prevalent in other western states, in Canada and in Australia.

"Wherever it is serious, farmers have had to change their cultural and rotational practices to control it," D McAllister said.

To date no alfalfa varieties ha been reported resistant to the di ease, which is transmitted by le hoppers and some other insects. US is checking this year to see if ar varieties will show resistance witches' broom.

At present, control, to be effectiv must be on a community basis, D McAllister said. Short rotation should be followed. When an old field is plowed out of alfalfa, all a falfa plants, both in the field ar along fences and roadways, should b destroyed, he said.

Corn Borers Gaining Ground in Iowa Fields

AMES, IOWA—European cor borer pupation at Ankeny, Iowa, wa 90% on Aug. 9, 76% of the observe forms were emerged pupae. In Boon County, pupation is 80% with 39% o the forms having emerged. Emer gence has proceeded rapidly and th number of moths in the field is th maximum expected.

A late planting of field corn at th European Corn Borer Laboratory ha accumulated a total of 148 egg masse per 100 plants. Thirty-two fields o various planting dates in Boone Cou ty averaged 20 egg masses per 10 plants on Aug. 9.

Corn leaf aphid is rapidly disappearing on both corn and sorghum. Many fields show from 2 to 10 lady beetles and other predators per plant. Stage of plant growth in sorghum may also influence aphid numbers. Infestation readings in variety trials show interesting differences, but more of these are needed to make a conclusive story.

Webworms are moderately abun dant in alfalfa fields in many areas In most cases prompt cutting is ad visable. Spraying after harvest ma be considered if infestations ar heavy.

Adult grasshoppers are now com mon in most places. Corn and soy bean fields adjacent to pastures an hay meadows are apt to need protec tion, at least along the margins.— Earl S. Raun.

Screwworm Spread Noted in North Carolina Report

RALEIGH, N.C. (Via Weste Union, Aug. 15)—Screwworms ar reported to be spreading throughou the state, being found all the wa from Morganton in the West to Ne Bern in the Eastern section of th state.

According to H. E. Scott, entomol ogist at North Carolina State Col lege, boll weevils are causing sever damage in some areas, and fall army worms on late sweetcorn and fiel corn are doing damage described a "light to moderate." Lacebugs ar doing severe damage to Sycamor trees in some areas of North Caro lina.

Oklahoma Experiences Webworm Outbreak

STILLWATER, OKLA.—A sever outbreak of webworms—primarily i mungbean, alfalfa and sorghum field —have Oklahoma farmers guessin the next best step to take. Dr. D. E (Mike) Howell, head of the univer sity entomology department, has rec ommended spraying infested field with 1½-2 lb. DDT or 2-3 lb. toxa phene an acre. The material shoul be applied using 8-12 gal. water, h says.

Since adult moths of the webworms are active now, it may be necessary to repeat the application in some cases if biological control does not prevail, he explains.

The red-necked peanut worm als has been reported taking a toll i many of the major peanut producin areas of the state. This pest is rela tively new to this section of the coun try, and only limited research ha been conducted on it.

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Croplife's second edition of

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Here it is! The second edition of Croplife's Bug of the Week in 8½ x 11" booklet form. It's made up from reprints of the series appearing in Croplife during the past several months. The booklet includes 32 insect pests pictured and described—and all are in addition to the 21 which appeared in the original Bug of the Week booklet issued in 1954.

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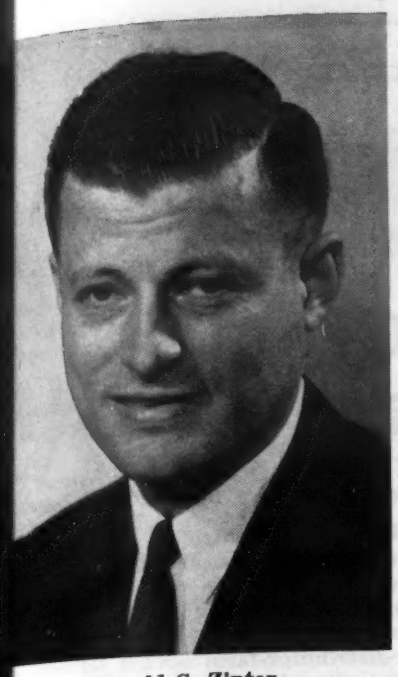

Donald G. Zinter

Donald G. Zinter in New Du Pont Territory

WILMINGTON, DEL.—Donald G. Zinter has been assigned as sales representative for Du Pont nitrogen products to a new sales territory covering southern Delaware, Maryland, the District of Columbia and parts of Virginia and West Virginia.

Mr. Zinter will handle sales of "Nu-Green" fertilizer compound, "Uramite" fertilizer compound, "Uramon" ammonia liquors, and "Two-Sixty-Two" feed compound, to the fertilizer and feed industries.

A native of Chicago, Mr. Zinter attended the University of Rochester (N.Y.). He joined Du Pont in 1957, after being associated with the Rochester Fertilizer Co.

Cotton Insects at Work as South Carolina Crop Matures

CLEMSON, S.C.—Reports received from 25 county agents, well-distributed over the state, indicate the state's cotton crop is maturing very rapidly, with excessive shedding of young bolls.

The agents report a heavier-than-usual infestation of spider mites, continued damage to young bolls by boll weevils, and some damage by bollworms. A few county agents in the eastern part of the state report continued leafworm infestation.

The reports indicate farmers have stopped applying insecticides except in fields where young bolls need protection. Harvesting is underway in some counties in the lower part of the state and open bolls are being reported in Piedmont counties.

ACP PROGRAM

(Continued from page 1)

tion plans, farm ponds and also cover cropping.

According to ACP officials, the most substantial part of the program goes into joint venture of the Federal Government in using lime and fertilizer materials to build up good soil use practices.

In addition to the regular $250 million appropriation for ACP there will be an additional $25 million for the development on farms.

Soil bank managers say that of $325 million available to them for long term contracts, the lion's share of that amount this year would probably be available in the current fiscal year since the largest part of disbursement on these long term soil bank contracts occurs in the first year of the contract and that the small balance represents annual rental payments for maintenance of programs which must be initiated and put into operation in the first years of the contract.

This would mean that about $290 million of the total soil bank appropriation for the crop in fiscal 1958 will be available for disbursement this year—and to the extent that the use of fertilizer and lime is required it can only mean a substantial shot in the arm for the fertilizer and pesticide industries. One of the major features of the crop program is that the contracting farmer is required to maintain weed control as a part of his contribution to the crop feature of the soil bank.

This should present to the pesticide industry a made-to-order list of weed control purchasers who will need weed control products as part of the potential $290 million outlay.

New Associate Agronomist Named for Oklahoma

STILLWATER, OKLA.—Dr. David Sander, Purdue University agronomist, will become associate professor of agronomy at Oklahoma State University Sept. 1, Dr. M. D. Thorne, department head, has announced.

Dr. Sander, with 10 years teaching experience at Purdue and the University of Nebraska, will teach four field crops courses and conduct research in peanuts, soybeans and other special crops at Oklahoma State.

A native of Platte, Neb., Dr. Sander received both his B.S. and M.S. degrees from the University of Nebraska. He has been employed as instructor at Purdue since 1951 while working on the Ph.D. degree he will officially receive this month.

Fauser-Montecatini Process to be Utilized By Spencer Plant

NEW YORK — Spencer Chemical Co.'s new urea plant now under construction at Henderson, Ky. (Croplife, page 1, Aug. 5) will utilize the Fauser-Montecatini process for urea manufacture.

According to Montecatini, this will be the third American plant to utilize the Fauser-Montecatini process to produce urea. Spencer is already operating a urea plant at Vicksburg, Miss. and Shell Chemical Co. is producing urea by the Fauser-Montecatini process at its plant in Ventura, Cal., the company reports.

The new Spencer facility at Henderson, Ky. is reported to have a capacity of 100 tons per day. It will bring the number of Fauser-Montecatini plants all over the world to a total of 65—25 of which are designed for the production of urea.

Smith-Douglass Names Sales Representative

ALBERT LEA, MINN. — Appointment of Robert Miller as a new Smith-Douglass Co. representative has been announced by M. W. Mawhinney, manager of the firm's Albert Lea office. Mr. Miller, a native of Blue Earth, Minn., is a graduate of the University of Minnesota School of Agriculture and has been operating a farm.

His home address after Sept. 1 will be 908 South State St., Fairmont, Minn. Gene Mills, who has been Smith-Douglass representative in the area, is being transferred to Estherville, Iowa.

FIELD DAY

STILLWATER, OKLA. — The annual fall agronomy field day at the Perkins experimental farm south of Stillwater, Okla., will be Sept. 3.

Shell Appoints Successor to Fred W. Hatch

NEW YORK—Sumner H. McAllister has been named by Shell Chemical Corp. to succeed Fred W. Hatch as manager of the agricultural chemical sales division of the corporation. The appointment will be come effective Nov. 15, and Mr. Hatch is scheduled to retire from the firm on Dec. 31.

Mr. McAllister is presently located at Denver as director of the Shell Development Agricultural Research Division, but will make his headquarters in the New York offices of Shell upon assuming his new position.

Mr. Hatch, who is president of the National Agricultural Chemicals Assn., has held his present position with Shell since 1949. He has been with the firm for a total of 25 years.

FERTILIZER TIMETABLE

MANHATTAN, KANSAS—A Kansas fertilizer timetable has been published by the agricultural experiment station at Kansas State College. The table gives the fertilizer, time, method and rate of application for 25 Kansas crops, ranging from the legumes, sorghums, and grasses, to vegetable crops. The chart also gives short sketches of particular needs of certain crops and, in some cases, expected results under normal conditions. The timetable was taken from the 1956 revision of the experiment station's circular, "Fertilizer Recommendations for Kansas," by F. W. Smith, Kansas State College agronomist.

POTASH DELIVERIES

First Half and Second Quarter 1957 and 1956—Short Tons K_2O

(See Story on Page 1)

Agricultural	Jan.-June 1957	Jan.-June 1956	April-June 1957	April-June 1956
United States				
Muriate	1,049,292	977,303	528,577	441,916
(Imports)	(60,258)	(65,908)	(60,258)	(65,908)
Manure Salts	1,617	877	734	370
Sulphate and Sul. Pot. Mag.	60,325	62,332	29,986	27,440
(Imports)	(7,205)	(8,462)	(7,205)	(8,462)
Total United States	1,111,234	1,040,512	559,297	469,726
Canada	40,288	37,242	25,804	19,612
(European imports)	(8,873)	(5,899)	(8,873)	(5,899)
Cuba	8,855	7,655	5,217	5,143
(Imports)	(2,970)	(....)	(2,970)	(....)
Puerto Rico	14,296	12,613	10,665	9,876
(Imports)	(665)	(1,862)	(665)	(1,862)
Hawaii	12,440	13,112	4,441	7,135
Total Institute Territories	1,187,113	1,111,134	605,424	511,492
Other Exports	133,454	57,523	59,679	34,905
Total Agricultural	1,320,567	1,168,657	665,103	549,397
(Imports)	(79,971)	(82,131)	(79,971)	(82,131)

NOTE: Imports for the first five months are included in the total for the second quarter of 1957. Import figures in parentheses are included in the total figures immediately above them.

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TALE OF THREE CITIES . . .

Diversification of Farming Boosts Income

The contrast between blind adherence to tradition and the prudent acceptance of newer farming activities was described recently in a talk by Under-Secretary of Agriculture, True D. Morse. Speaking on "A Tale of Three Cities," Mr. Morse told an audience at the Louisiana-Texas Rural Development Program that a pasture economy pays off not only at the farm level, but also acts as a stimulus to entire communities.

The three cities referred to in the title of his talk were located in Mississippi and Alabama. Back in 1910, the town of Tupelo, Lee County, Mississippi, had a population of 3,881. The census figures of that year showed the other two towns as being almost identical in population, with all three being located in predominantly agricultural service centers, with cotton the main source of income.

It is significant to note that Lee County, Mississippi, had a much smaller total land area than did the other two counties in the story. Lee had 60,000 acres of cotton; the other Mississippi county had 92,000 acres, and the Alabama county had 107,000 acres.

Yet, Mr. Morse pointed out, Lee County jumped from an income of $2,724,000 in 1909 to $7,157,000 in 1954, while the other counties made lesser showings.

Livestock, during the earlier years, was limited mainly to home use needs in all three counties, but by 1954, two of the three counties had stepped up livestock production significantly. The third county, with a valuation of only $900,000 on its livestock and livestock product sales, had less than half that enjoyed by Lee County, with $1,894,000.

As the farmers prospered, so did the towns. Tupelo, which had 3,881 persons in 1910, had trebeled its numbers by 1950, boasting a population of 11,527. The other Mississippi town had grown from 3,700 to 5,300, while the Alabama town which had started out even with its competitors 40-odd years ago, had actually lost population . . . from 4,050 to 3,200.

"In 1950, Lee County (with Tupelo) had 13,973 employed persons 14 years of age and over. Of these, 8,451 reported nonfarm jobs as their principal occupation," Mr. Morse said. "This predominance of nonfarm over farm employment reflects in part Tupelo's recent economic growth, since most of the county's nonfarm jobs are in this thriving city.

"Growth of nonfarm employment in the county, however, has not occurred at the expense of a decline in the county's agriculture. Rather, the value of farm products sold on Lee County farms was 6.2 times higher in 1954 than in 1939. Part of this increase, of course, can be accounted for by price changes, yet this was a larger increase than that made in any other Mississippi County with similar soils, during the same period.

"Progress made both in Tupelo and on Lee County farms, however, cannot be fully measured merely in terms of value of output or number of people employed. The county's economy is also now on a sounder economic basis. It has a balance between agriculture and nonfarm employment that enables Lee County people to retain all of the advantages of living in the open country or in a small city.

"Its nonfarm industries include kinds that help to service the type of agriculture that has long been recommended in many other low-income farm areas of the South. Apparel and other textile fabricating industries provide employment for many farm women. Other kinds of manufacturing recently established here provide employment for a relatively high level of skills."

Further tangible evidence of Tupelo's and Lee County's growth is seen in the quality of the area's dwellings, churches, schools, and other public and private service facilities, the Under-Secretary pointed out. This county in 1954 had a higher level of living of farm operator families than did any other nearby Mississippi County, he said. "It was one of 6 Mississippi counties in which the index of level-of-living of farm operator families in 1954 was 100% or more of the United States average in 1945. The other Mississippi counties with indexes this high were predominantly urban or counties along the Gulf Coast.

"The median net money income of all families in Lee County in 1949 was $1,384 compared with $1,118 for the other Mississippi County. For the Alabama County that once had been about as prosperous as Lee County, it was $639." Why this striking difference? In the first place Tupelo, Mississippi, has had an aggressive rural development program. For many years town and country leadership has been at work on a winning prosperity team. It has paid off.

"Many such success stories were studied before the Rural Development Program was started. This is why we know that any county or trade area can be more prosperous with a development program than without a sound plan and effective cooperation of local organizations and agencies," Mr. Morse explained.

Leaders from 23 states and 12 foreign countries have travelled to Tupelo to study its program. By example, other areas have been stimulated into more progress. That illustrates why pilot, or demonstration, counties and trade areas are a vital part of the Rural Development Program.

If anyone is looking for a moral to this tale of three cities, it is rather obvious. Efforts on the part of everyone involved to help upgrade agriculture in low income areas pay off over the years. The significant factors in this story are the de-emphasis on a single crop economy and the establishment of a more diversified agriculture through the introduction of livestock and the building up of pasture lands.

Such a plan does not abandon cotton, nor does it become overbalanced on any other aspect of agricultural production. It is a graphic example of what a pasture economy can do, and is eloquent in saying that the U.S. farm program is not one to "plow under the farmers," but rather to advocate a more sound use of farm land.

Pesticides and fertilizers will find far greater sales potentials in areas where intelligent development has been practiced over a period of years. The use of these materials repays farmers to such an extent that prosperity may be induced, which in turn enables growers to invest even further in such materials. It's a nice cycle if you can get it started!

Quote

"An average cow will eat the equivalent of two tons of dried grass during the grazing season. That much feed removes from the soil the amount of plant food contained in 550 lb. of sulfate of ammonia, 230 lb. 20% superphosphate, 185 lb. or 50% muriate of potash and 50 lb. hydrated lime. Some of this plant food is returned in the form of manure, but much of it must be replaced if the pasture is to continue in a high state of productivity."—C. E. Phillips, Delaware Agricultural Extention Service.

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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is $5 for one year ($8 a year outside the U.S.). Single copy price, 25¢.

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MEETING MEMOS

ct. 31—19th annual meeting, Middle West Soil Improvement Committee, Sherman Hotel, Chicago. Z. H. Beers, 228 N. LaSalle St., Chicago, executive secretary.

ec. 8-12—Vegetable Growers Association of America convention, Jung Hotel, New Orleans, La.

1958

arch 4-6—Nitrogen Conference, University of Minnesota, St. Paul Campus.

EDITOR'S NOTE—The listings bove are appearing in this column r the first time this week.

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ug. 21-22—Shell Nematology Workshop, Orlando Municipal Auditorium, Orlando, Fla.

ug. 26-28—American Society for Horticultural Science, annual meeting in conjunction with annual meeting of American Institute of Biological Sciences, Stanford University, Palo Alto, Cal.

ug. 28-31—Soil Conservation Society of America, Annual Convention, Asilomar, Cal.

ept. 4—Kentucky Fertilizer Conference, Campbell House, Lexington, Ky

ept. 4-6—National Agricultural Chemicals Assn., Annual Meeting Essex & Sussex, Spring Lake, N.J., L. S. Hitchner, 1145 19th St. N.W., Washington 6, D.C., Executive Secretary.

ept. 5—Annual Farm Day, State College, New Mexico. Gordon B. Hoff, program chairman.

ept. 5-6—Great Lakes States Anhydrous Ammonia Meeting, Michigan State University, East Lansing, Mich.

ept. 6—Annual Agronomy Fall Field Day, University of Nebraska, Lincoln; Clinton Hoover, extension agronomist, chairman.

ept. 8-15—International Congress of Crop Protection, Hamburg, Germany.

ept. 24-25—New England Fertilizer Conference, Bald Peak, Colony Club, Melvin Village, N.H.

ct. 2-4—Eleventh Annual Beltwide Cotton Mechanization Conference, Shreveport, La.

ct. 3—New Jersey Fertilizer Conference, Rutgers University, New Brunswick, N.J.

ct. 3-5—Pacific Northwest Plant Food Assn., Annual Convention, Sun Valley, Idaho, Leon S. Jackson, Lewis Bldg., Portland 4, Ore., Secretary.

ct. 7-8—Western Agricultural Chemicals Assn., Fall Meeting, Villa Hotel, San Mateo, Cal., C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., Executive Secretary.

ct. 14—Sixth Annual Sales Clinic of the Salesmen's Assn., American Chemical Society, Hotel Roosevelt, New York.

ct. 15—Association of Official Agricultural Chemists, 71st Annual Meeting, Washington, D.C., Dr. William Horwitz, Box 540, Benjamin Franklin Station, Washington, D.C., secretary-treasurer.

ct. 17—Conference on Chemical Control Procedures for Industry Chemical Control Analysts, Shoreham Hotel, Washington, D.C. Sponsored by National Plant Food Institute.

ct. 18—Association of American Fertilizer Control Officials (States Relations Committee, 8 p.m. Oct. 17), Shoreham Hotel, Washington, D.C., B. D. Cloaninger, Box 392, Clemson, S.C., Secretary-Treasurer.

Oct. 21-22—Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago.

Oct. 29—Grassland Farming Conference, Rutgers University, New Brunswick, N.J.

Oct. 29-30—Seventh Annual Northwest Garden Supply Trade Show of Oregon Feed & Seed Dealers Assn., Portland, Ore. Masonic Temple.

Oct. 29-31—Entomological Society of Canada and Entomological Society of Alberta, Annual Meetings, Lethbridge, Alberta.

Oct. 31-Nov. 1—Second Annual Southern Fertilizer Conference and Second Annual Southern Soil Fertility Conference, Dinkler Plaza Hotel, Atlanta, Ga.

Nov. 3-5—California Fertilizer Assn. 34th Annual Convention, St. Francis Hotel, San Francisco, Sidney H. Bierly, General Manager, 475 Huntington Drive, San Marino 9, Cal.

Nov. 6-8—Fertilizer Industry Round Table, Sheraton Park Hotel, Washington, D.C.

Nov. 13-15—National Aviation Trades Assn., Annual Convention, Hotel Adolphus, Dallas, Texas.

Nov. 17-19—National Fertilizer Solutions Assn., Annual Convention, Netherland-Hilton Hotel, Cincinnati, Muriel F. Collie, 2217 Tribune Tower, Chicago 11, Ill.

Nov. 18-20—Carolinas-Virginia Pesticide Formulators Assn., Carolina Hotel, Pinehurst, N.C. W. R. Peele, 516 S. Salisbury, Raleigh, N.C., secretary.

Dec. 1-3—Southern Seedsmen's Assn., Jung Hotel, New Orleans.

Dec. 2-5—Entomological Society of America, 5th Annual Meeting, Hotel Peabody, Memphis, Tenn., R. H. Nelson, 1530 P St., N.W., Washington 5, D.C., Executive Secretary.

Dec. 2-5—Cotton States Branch, Entomological Society of America, 32nd Annual Meeting, Hotel Peabody, Memphis, Tenn., M. E. Merkl, Box 202, Leland, Miss., Secretary-Treasurer.

Dec. 3-4—Iowa State College Fertilizer Manufacturer's Conference and Fertilizer Dealers' Short Course, Memorial Union, Iowa State College campus, Ames, Ia.

Dec. 9-12—Chemical Specialties Manufacturers Assn., Hollywood Beach Hotel, Hollywood, Fla.

Dec. 10-12—North Central Weed Control Conference, 14th Annual Meeting, Hotel Savory, Des Moines, Iowa. Lyle A. Derscheid, agronomy department, South Dakota State College, Brookings, Program Chairman.

Dec. 11-13—Agricultural Ammonia Institute, Seventh Annual Meeting, Hotel Marion, Little Rock, Ark., Jack F. Criswell, Claridge Hotel, Memphis, Executive Vice President.

Dec. 12-13—Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Tenn.

1958

Jan. 7-8—Texas Fertilizer Conference, Texas A&M, College Station, Texas.

Jan. 13-15, 1958—Weed Society of America and Southern Weed Conference, joint meeting, Peabody Hotel, Memphis, Tenn.

Jan. 21-23—California Weed Conference, San Jose, Cal.

Feb. 13-14—Agronomists-Industry Joint Meeting, Edgewater Beach Hotel, Chicago, sponsored by the Middle West Soil Improvement Committee, Z. H. Beers, 228 N. LaSalle St., Chicago 1, Ill., Executive Secretary.

March 4-5—Western Cotton Production Conference, Hotel Cortez, El Paso, Texas, Conference Sponsored by the National Cotton Council and the Five State Cotton Growers Assn.

June 15-18—National Plant Food Institute, Annual Meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 25-27—Pacific Branch, Entomological Society of America, San Diego, Cal.

July 18-19—Southwest Fertilizer Conference and Grade Hearing, Buccaneer Hotel, Galveston, Texas.

Pest Control Ups Cotton Yields in Louisiana

BATON ROUGE, LA.—Latest reports on the 1956 cotton crop show that Louisiana growers set a new production record with an average of 496 lb. lint an acre.

According to I. W. Carson, associate agronomist at Louisiana State University, the steady increase in yields in recent years in Louisiana can be attributed to concentration of cotton on better land, better soil preparation, fertilization and cultivation, and improved insect control.

OKLAHOMA COTTON DAY

STILLWATER, OKLA.—Ten different experimental tests to be shown during a late afternoon tour will highlight the annual cotton production field day at the cotton research station near Chickasha, Okla. Aug. 30. Field day visitors will see experimental studies concerned with cotton population, varieties, stripper varieties, bacterial blight, seed treatment, late planted varieties, acid-treated versus fuzzy seed, seed furrow openers and seedbed. A hot water treatment, plateau profile planter, cotton harvesting machines and an insecticide sprayer will be among the machinery on exhibit. Also, the research gin will be open for inspection.

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Rates: 15¢ per word; minimum charge $2.25. Situations wanted, 10¢ a word; $1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Commercial advertising not accepted in classified advertising department. Advertisements of new machinery, products and services accepted for insertion at minimum rate of $10 per column inch.

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TO OPEN NEW PLANT

SALT LAKE CITY, UTAH—Establishment of a bagging plant near Springville, Utah County, is planned by Alunite Corp. of Utah, manufacturer of a fertilizer made from the alunite mined at Marysvale, Piute County. G. Owen Lovejoy, Salt Lake City, president of the firm, said 50 acres of land have been obtained for the plant.

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Bonneville, Ltd.
Bradley & Baker
Broyhill Company 4
Burkhardt Larsen Co.

Chase Bag Co. 8
Chemagro Corp.
Chemical & Industrial Corp.
Chemical Insecticides Corp.
Chemical Service Corp. 23
Clover Chemical Co.
College Science Publishers
Collier Carbon & Chemical Corp.
Commercial Solvents Corp.
Consolidated Mining & Smelting Co.

Dallas Tank Mfg. Co. 6
Davison Chemical Co.
Deere & Co., Grand River Chem. Div.
Dempster Mill Mfg. Co.
Dow Chemical Co.
E. I. Du Pont de Nemours & Co., Inc.
Duval Sulphur & Potash Co. 19

Eastern States Chemical Corp.
Emulsol Chemical Corp.

Flexco Products, Inc. 4
Frontier Chemical Co.

Gates Rubber Co.
Grace Chemical Co. 7
Grand River Chemical Div. of Deere & Co.

Harshaw Chemical Co.
Hayes & Stolz
Henderson Mfg. Co. 21
Hercules Powder Co.
Hough, Frank H., Co.
Hypro Engineering Co.

Industrial Fumigant Co.
International Minerals & Chemical Corp.

Johns-Manville Corp.

Kent, Percy, Bag Co. 18
Kraft Bag Corp.

Markley Laboratories
Merck & Co.
Meredith Pub. Co. 5
Wilson & Geo. Meyer & Co.
Miller Publishing Co., The 14, 15
Minerals & Chemicals Corp.
Mississippi River Chemical Co.
Monsanto Chemical Co.

National Potash Co.
Naugatuck Chemical Div., U. S. Rubber Co.
Niagara Chemical Division, Food Machinery & Chemical Corp.
Nitroform Agricultural Chemicals, Inc.
Nitrogen Div., Allied Chemical & Dye Corporation
Northwest Nitro-Chemicals, Ltd.

Olin Mathieson Chemical Corp. 11

Pacific Coast Borax Co.
Penick, S. B., & Co.
Pennsalt of Washington Div. of Pennsalt Chemicals Corp.
Phillips Chemical Co. 17
Potash Company of America
Pringle, Ashmead F., Jr.
Private Brands, Inc.

Raymond Bag Co.
Riverdale Chemical Co.

Shell Chemical Corp.
Simonsen Mfg. Co.
Sinclair Chemicals, Inc. 3
Smith-Rowland Co., Inc.
Sohio Chemical Co. 8
Southern Nitrogen Co.
Spencer Chemical Co. 13
Spraying Systems Co. 12
Stewart-Warner Corp.
Successful Farming 5

Tennessee Corp.
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